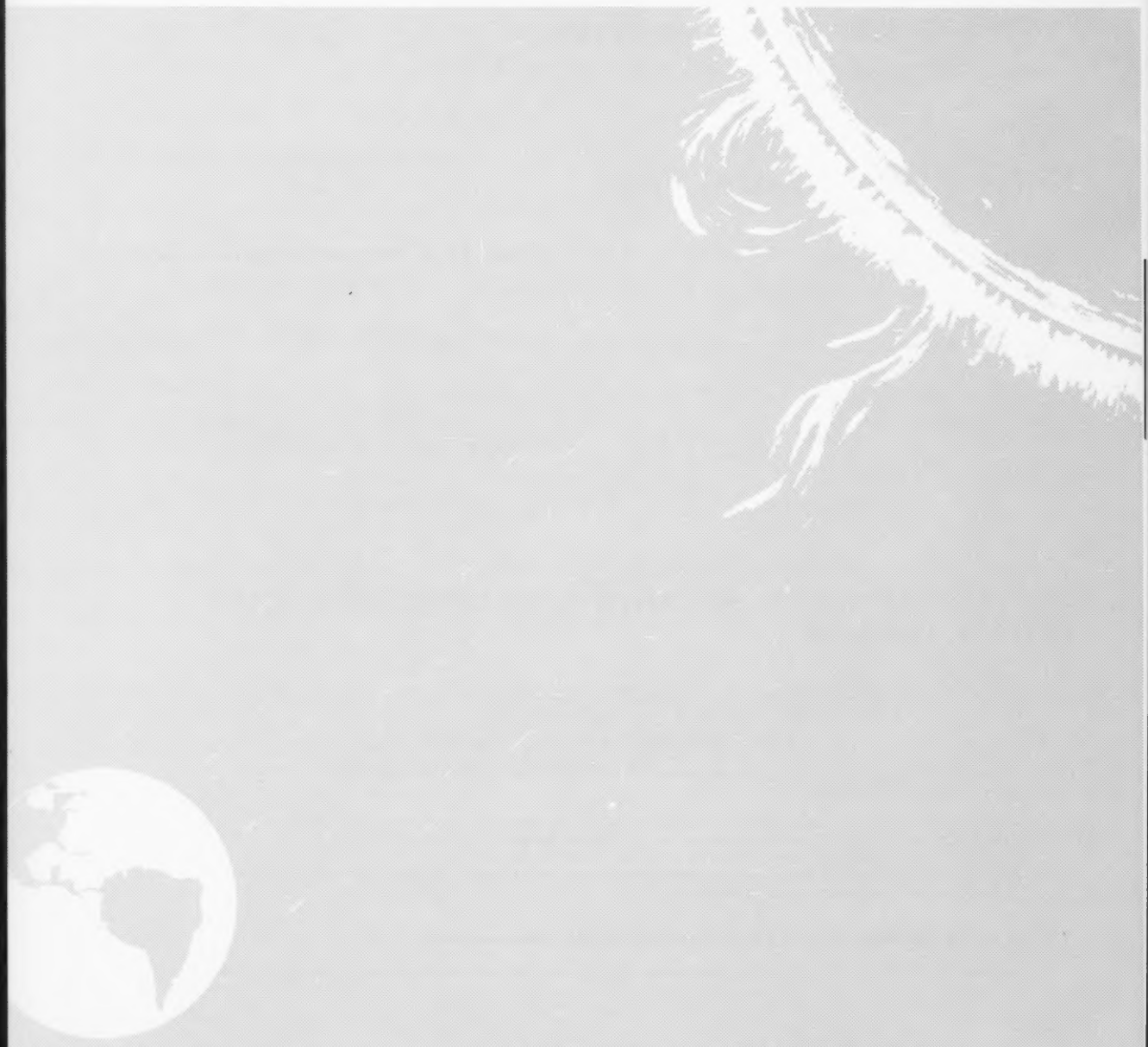
July 1976 Number 383-Part II

Solar-Geophysical Data comprehensive reports

Data for January 1976–December 1975 & Miscellanea

Explanation of Data Reports Issued as Number 378 (Supplement) February 1976



noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / ENVIRONMENTAL DATA SERVICE / ASHEVILLE, N.C.

U.S. DEPARTMENT OF COMMERCE
Elliot L. Richardson, Secretary
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
Robert M. White. Administrator
ENVIRONMENTAL DATA SERVICE
Thomas S. Austin, Director

Solar - Geophysical Data

NO. 383 JULY 1976

Part II (Comprehensive Reports)

DATA FOR
JANUARY 1976
DECEMBER 1975
& MISCELLANEA

NATIONAL GEOPHYSICAL AND SOLAR - TERRESTRIAL DATA CENTER
BOULDER, COLORADO

For obtaining bulletins on a data exchange basis, send request to: World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, Colorado 80302.

For sale through the National Climatic Center, Federal Building, Asheville, NC 28801, Attn: Publications. Subscription Price: $34.00 annually for both Part I (Prompt Reports) and Part II (Comprehensive Reports) or $18.00 annually for either part. Annual supplement containing explanation is included. For foreign mailing add $32.00 for both parts or $16.00 for either part. Single issue price $1.50 for either part and $1.40 for the extra issue. Make checks and money orders payable to: Department of Commerce, NOAA.

To standardize referencing these reports in the open literature, the following format is recommended:

Solar-Geophysical Data, 366 Part I (or Part II), pages, February 1975, U.S. Department of Commerce, (Boulder, Colorado, U.S.A. 80302)

SOLAR - GEOPHYSICAL DATA

No. 383

Issued in two parts

Hope I. Leighton, Editor

J. Virginia Lincoln, Director
Solar - Terrestrial Data Services Division

CONTENTS

Part I (Prompt Reports)

	Page
Index for 1975 and 1976	2
Data for June 1976	3-22
Data for May 1976	23-119

Part II (Comprehensive Reports)

	Page
Index for 1975 and 1976	2
Data for January 1976	3-21
Data for December 1975	23-32
Miscellaneous Data	33-41

Solar Radio Waves - Spectral - Culgoora -- April 1976
Solar Radio Waves - Radioheliograph Events - April 1976
Interplanetary Plasma - IMP 8 -- December 1975
Reduced Magnetograms - November 1975

INDEX FOR 1975 - 1976 DATA PUBLISHED IN "SOLAR-GEOPHYSICAL DATA"

		1975 Aug	Sep	Oct	Nov	Dec	1976 Jan	Feb	Mar	Apr	May	Jun
A.	Solar and Interplanetary Phenomena											
A.1	Sunspot Drawings	374A 28	375A 24	376A 28	377A 26	378A 28	379A 26	380A 36	381A 30	382A 26	383A 26	
A.2a	Zürich Provisional Relative Sunspot Numbers R_Z	373A 7	374A 7	375A 7	376A 7	377A 7	378A 7	379A 7	380A 7	381A 7	382A 7	383A 7
A.2b	Zürich Final Sunspot Numbers R_Z	378A 6	378A 6	378A 6	378A 6	378A 6						
A.2c	American Relative Sunspot Numbers R_A'	373A 7	374A 7	375A 7	376A 7	377A 7	378A 7	379A 7	380A 7	381A 7	382A 7	383A 7
A.3a	Mt. Wilson Magnetograms	374A 28	375A 24	376A 28	377A 26	378A 28	379A 26	380A 36	381A 30	382A 26	383A 26	
A.3b	Mt. Wilson Magnetic Characteristics of Sunspots	374A 90	375A 84	376A 90	377A 86	378A 90	379A 88	380A 94	381A 92	382A 86	383A 88	
A.3c	Kitt Peak Magnetograms	374A 28	375A 24	376A 28	377A 26	378A 28	379A 26	380A 36	381A 30	---	---	
A.4	$H\alpha$ Spectroheliograms	374A 28	375A 24	376A 28	377A 26	378A 28	379A 26	380A 36	381A 30	382A 26	383A 26	
A.5	Calcium Plage Drawings - McMath (or Catania)	374A 28	375A 24	376A 28	377A 26	378A 28	379A 26	380A 36	381A 30	382A 26	383A 26	
A.5a	Calcium Plage (McMath) and Sunspot Regions	374A 90	375A 84	376A 90	377A 86	378A 90	379A 88	380A 94	381A 92	382A 86	383A 88	
A.5b	McMath Daily Calcium Plage Indices	374A 95	375A 90	376A 96	377A 92	378A 94	379A 93	380A100	381A 97	382A 91	383A 94	
A.6	$H\alpha$ Synoptic Charts	379B 14	380B 12	376A 27	377A 25	378A 27	379A 25	380A 33	381A 29	382A 25	383A 25	
A.7b	Coronal Line Emission	374A 28	375A 24	376A 28	377A 26	378A 28	379A 26	380A 36	381A 30	382A 26	383A 26	
A.7f	Helium D3 Chromosphere (Big Bear)	---	---	---	---	---	378A 23	379A 21	380A 30	381A 24	382A 21	383A 21
A.8aa	2800 MHz - Daily Values of Solar Flux (ARO-Ottawa)	373A 7	374A 7	375A 7	376A 7	377A 7	378A 7	379A 7	380A 7	381A 7	382A 7	383A 7
A.8ac	2800 MHz - Daily Values of Adj. Solar Flux (ARO-Ottawa)	373A 7	374A 7	375A 7	376A 7	377A 7	378A 7	379A 7	380A 7	381A 7	382A 7	383A 7
A.8g	Daily Values of Adjusted Solar Flux (AFGL)	373A 7	374A 7	375A 7	376A 7	377A 7	378A 7	379A 7	380A 7	381A 7	382A 7	383A 7
A.9cb	8.6 mm Radio Maps of the Sun (NELC - La Posta)	374A 28	375A 24	376A 28	377A 26	378A 28	379A 26	380A 36	381A 30	382A 26	383A 26	
A.9d	2 cm Radio Maps of the Sun (NELC - La Posta)	374A 28	375A 24	376A 28	377A 26	378A 28	379A 26	380A 36	381A 30	382A 26	383A 26	
A.10a	169 MHz - Interferometric Observations (Nancay)	373A 15	374A 12	375A 12	376A 14	377A 12	378A 13	379A 12	380A 15	381A 13	382A 12	383A 13
A.10c	21 cm East-West Solar Scans (Fleurs)	373A 17	374A 14	375A 14	376A 16	378B 57	378A 15	379A 14	380A 17	381A 15	382A 14	383A 15
A.10d	43 cm East-West Solar Scans (Fleurs)	373A 18	374A 15	375A 15	376A 17	378B 58	378A 16	379A 15	380A 18	381A 16	382A 15	383A 16
A.10e	10.7 cm East-West Solar Scans (Ottawa-ARO)	373A 16	374A 13	375A 13	376A 15	377A 13	378A 14	379A 13	380A 16	381A 14	382A 13	383A 14
A.11g	Solar X-ray (SMS/GOES)	373A 25	374A 20	375A 18	376A 21	377A 19	378A 20	379A 19	380A 26	381A 21	382A 18	383A 19
A.11h	Solar X-ray (OSO-8; 1975-057A)	374A 28	375A 24	376A 28	377A 26	378A 28	379A 26	380A 36	381A 30	382A 26	383A 26	
A.11ib	Solar EUV Spectroheliograms FeXV 284Å (AURA D2-B)	---	---	---	---	---	---	380A 36	381A 30	382A 26	383A 26	
A.12ba	Cosmic Ray Protons (Pioneers 6 & 7)	---	374A 18	---	---	377A 18	---	---	---	---	---	---
A.12bb	Cosmic Ray Protons (Pioneers 8 & 9)	---	374A 19	---	---	---	---	---	---	---	---	---
A.12e	Energetic Solar Particles (IMP H & J)	380B 23	381B 39	382B 29	382B 35	382B 12	383B 17					
A.13a	Solar Wind (Pioneers 6 & 7)	---	374A 18	---	---	377A 18	378A 19	379A 18	---	---	---	---
A.13d	Solar Wind from IPS Measurements	373A 24	374A 17	375A 17	376A 20	377A 17	378A 18	380A123	380A 25	381A 20	382A 17	383A 18
A.13e	Solar Plasma (IMP H & J)	380B 22	381B 38	382B 28	382B 34	383B 39	383B 16					
A.17	Interplanetary Magnetic Field (Pioneer 8)	---	374A 19	---	---	---	---	---	---	---	---	---
A.17	Interplanetary Magnetic Field (Pioneer 9)	---	374A 19	---	---	---	---	---	---	---	---	---
A.17c	Inferred IP Magnetic Field	373A 29	374A 23	375A 20	376A 24	377A 21	378A 24	379A 22	380A 31	381A 25	382A 22	383A 22
A.18	Interplanetary Electric Field (Pioneer 8)	---	374A 19	---	---	---	---	---	---	---	---	---
A.18	Interplanetary Electric Field (Pioneer 9)	---	374A 19	---	---	---	---	---	---	---	---	---
B.	Ionospheric (and Radio Wave Propagation) Phenomena											
B.51ca	High Latitude Quality Figures and Forecasts	374A115	375A103	376A113	377A111	378A114	379A115	380A119	381A126	382A113	383A118	
B.52	Graphs of Transmission Frequency Range	374A116	375A104	376A114	377A112	378A115	379A116	380A120	381A127	382A114	383A120	
B.53	Quality Figures Based on Frequency Ranges	374A118	375A106	376A116	377A114	378A117	379A118	380A122	381A129	382A116	383A119	
C.	Flare-Associated Events											
C.1a	Optical Observations Flares	373A 10	374A 20	375A 10	376A 10	377A 10	378A 10	379A 10	380A 10	381A 10	382A 10	383A 10
C.1ba	Optical Observations Flares (Standardized Data)	378B 4	379B 4	380B 4	381B 4	382B 4	383B 4					
C.1d	Flare Patrol Observations	373A 14	374A 11	375A 11	376A 13	377A 11	378A 12	379A 11	380A 14	381A 12	382A 11	383A 12
C.1d	Flare Patrol Observations	378B 25	379B 8	380B 7	381B 13	382B 8	383B 10					
C.1e	Flare Indices (by day)	378B 24	379B 7	380B 6	381B 12	382B 7	383B 9					
C.1f	Flare Indices (by Region)	379B 22	380B 20	381B 36	382B 26	383B 32						
C.3	Solar Radio Waves - Outstanding Occurrences	378B 26	379B 9	380B 8	381B 14	382B 9	383B 11					
	Solar Radio Waves - Fixed Frequencies - Selected	373A 19	374A 16	375A 16	376A 18	377A 16	378A 17	379A 16	380A 19	381A 17	382A 16	383A 17
C.3t	43.25, 80 and 160 MHz Selected Bursts (Culgoora)	374A107	376B 26	376A105	377A102	378A101	379A102	380A106	381A114	383B 37	383A103	
C.4a	Solar Radio Spectral Obs. (Fort Davis)	374A 99	375A 92	376A 98	377A 94	378A 96	379A 95	380A102	381A100	382A 93	383A 96	
C.4b	Solar Radio Spectral Obs. (Boulder)	374A 99	375A 92	376A 98	377A 94	378A 96	379A 95	380A102	381A100	382A 93	383A 96	
C.4d	Solar Radio Spectral Obs. (Culgoora)	378B 54	376B 24	376A 98	377A 94	378A 96	379A 95	380A102	381A100	383B 34	383A 96	
C.4e	Solar Radio SpectrUal Obs. (Weissenau)	374A 99	375A 92	376A 98	377A 94	378A 96	379A 95	380A102	381A100	382A 93	383A 96	
C.4f	Solar Radio Spectral Obs. (Sagamore Hill)	374A 99	375A 92	376A 98	377A 94	378A 96	379A 95	381B 45	381A100	382A 93	383A 96	
C.4h	Solar Radio Spectral Obs. (Dwingeloo)	---	---	376A 98	---	---	379A 95	---	381A100	382A 93	383A 96	
C.4i	Solar Radio Spectral Obs. (Dürnten)	374A 99	375A 92	376A 98	377A 94	378A 96	379A 95	380A102	381A100	382A 93	383A 96	
C.4j	Solar Radio Spectral Obs. (Manila)	374A 99	375A 92	376A 98	377A 94	378A 96	379A 95	381B 45	381A100	382A 93	383A 96	
C.5e	Solar X-ray (SMS/GOES)	373A 27	374A 22	375A 18	376A 23	377A 23	378A 22	---	380A 28	381A 23	382A 20	---
C.6	Sudden Ionospheric Disturbances	374A 96	375A 91	376A 97	377A 93	378A 95	379A 94	380A101	381A 98	382A 92	383A 95	
D.	Geomagnetic and Magnetospheric Phenomena											
D.1a	Geomagnetic Indices Kp, Kn, Ks, Km, Ap, aa, Cp	374A110	374A 98	376A108	377A105	378A105	379A108	380A112	381A119	382A106	383A111	
D.1ba	27-day Chart of Kp Indices	374A111	374A 99	376A109	377A106	378A107	379A109	380A114	381A121	382A108	383A113	
D.1c	27-Day Chart of C9	378A108	378A108	378A108	378A108	378A108						
D.1d	Principal Magnetic Storms	374A113	374A101	376A111	377A108	378A112	379A113	380A117	381A124	382A111	383A116	
D.1e	Reduced Magnetograms	---	---	381B 47	382B 40	---	---					
D.1f	Sudden Commencement and Solar Flare Effects	374A114	374A102	376A112	377A110	378A113	379A114	380A118	381A125	382A112	383A117	
D.1g	Equatorial Indices Dst	374A112	374A100	376A110	377A107	378A111	379A112	380A116	381A123	382A110	383A115	
F.	Cosmic Rays											
F.1a	Cosmic Ray Neutron Counts (Deep River)	374A108	375A 96	377B 34	377A103	378A104	379A103	380A107	381A118	382A101	383A104	
F.1b	Cosmic Ray Neutron Counts (Climax)	374A108	375A 96	376A106	377A103	378A104	379A103	380A107	381A118	382A101	383A104	
F.1e	Cosmic Ray Neutron Counts (Alert)	374A108	375A 96	377B 34	377A103	378A104	379A103	380A107	381A118	382A101	383A104	
F.1f	Cosmic Ray Neutron Counts (Calgary)	374A108	375A 96	376A106	377A103	378A104	380B 28	381B 44	381A118	382A101	383A104	
F.1g	Cosmic Ray Neutron Counts (Sulphur Mountain)	374A108	375A 96	376A106	377A103	378A104	380B 28	381B 44	381A118	382A101	383A104	
F.1h	Cosmic Ray Neutron Counts (Thule)	374A108	375A 96	376A106	377A103	378A104	379A103	380A107	381A118	383B 38	383A104	
F.1i	Cosmic Ray Neutron Counts (Kiel)	374A108	375A 96	376A106	377A103	378A104	379A103	380A107	381A118	382A101	383A104	
F.1j	Cosmic Ray Neutron Counts (Tokyo)	374A108	375A 96	376A106	377A103	378A104	379A103	380A107	381A118	382A101	383A104	
H.	Miscellaneous											
H.60	IUWDS Alert Decisions	373A 4	374A 4	375A 5	376A 5	377A 5	378A 5	379A 5	380A 4	381A 4	382A 4	383A 5
H.62	Abbreviated Calendar Record	379B 15	380B 13	381B 29	382B 19	383B 25						

Note: A = Part I, B = Part II.

374A 28 listed under 1975 Aug shows that data for August 1975 were contained in *Solar-Geophysical Data* Number 374 - Part I beginning on page 28.

JANUARY 1976 DATA

Contents

	Page
Solar Flares	
Hα Solar Flares (Standardized Data)	4-8
Daily Flare Indices	9
No-Flare-Patrol Chart	10
Solar Radio Waves	
Worldwide Outstanding Occurrences at Fixed Frequencies	11-15
Energetic Solar Particles and Plasma	
(See Miscellaneous Section for December 1975 Plasma Data)	16-21
Magnetograms of Geomagnetic Storm	
(See Miscellaneous Section for November 1975 storm)	

Hα SOLAR FLARES

JANUARY 1976

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE 1976 JAN	START	MAX. PHASE	END	APPROX. LAT.	APPROX. MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		CONC.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
	01	0415	0420	NO FLARE PATROL													
	01	0455	0544	NO FLARE PATROL													
73 ABST	01	0647	0648	0655	S12	E80	.984		7.3	8	-F		C	0648	87		DJ
	01	1415	1417	NO FLARE PATROL													
	01	1459	1719	NO FLARE PATROL													
	01	1907	1909	NO FLARE PATROL													
90 PALE	01	1909	1911	1914	S09	W46	.721	13992	29.3	5	-F	3	C		6		
	02	0715	0720	NO FLARE PATROL													
	02	1412	1415	NO FLARE PATROL													
	02	1515	1612	NO FLARE PATROL													
	02	2318	2329	NO FLARE PATROL													
	03	2215	2222	NO FLARE PATROL													
81 ARCE	05	0915E		0940D	N06	W90	1.000	13992	29.6	25D	-N		C	0930	15		
	05	1740	1746	NO FLARE PATROL													
	05	1801	1813	NO FLARE PATROL													
	05	2206	2310	NO FLARE PATROL													
	06	1541	1644	NO FLARE PATROL													
	06	1657	1723	NO FLARE PATROL													
	06	2141	2325	NO FLARE PATROL													
	06	2330	2335	NO FLARE PATROL													
	07	1823	1831	NO FLARE PATROL													
	07	1915	2031	NO FLARE PATROL													
	07	2142	2302	NO FLARE PATROL													
	08	1943	1949	NO FLARE PATROL													
	09	0340	0344	NO FLARE PATROL													
	09	0346	0353	NO FLARE PATROL													
	09	0354	0430	NO FLARE PATROL													
	09	2150	2155	NO FLARE PATROL													
	10	1607	1840	NO FLARE PATROL													
	10	1919	1926	NO FLARE PATROL													
	10	2141	2145	NO FLARE PATROL													
82 CATA	11	0800	0805	0855	S09	E90	1.000	14029	18.1	55	-F	1		0805	28		A
83 CATA	11	0905	0920	1005	S13	E90	1.000	14029	18.1	60	1F	1		0920	56		A
84 CATA	11	1450	1455	1520D	S13	E90	1.000	14029	18.4	30D	1F	1		1455	56		A
	11	1520	1532	NO FLARE PATROL													
	11	1625	1646	NO FLARE PATROL													
GRP63085	11	2139+1	2140+1	2153	S09	E91	.986	14029	18.0	14	-F				60		
RAMY	11	2139	2140	2148D	S08	E80	.983	14029	17.9	9D	-F	3	C		72		FDE
PALE	11	2140	2141	2153	S11	E82	.989	14029	18.1	13	-N	2	C		46		DE
86 VORO	12	0036	0041	0054	S10	E80	.983	14029	18.0	18	?N		C	0041	108	4.4	D
	IMP.1 NO		MITK1														
87 MITK	12	0406	0411	0418	S11	E78	.976	14029	18.0	12	-N		C	0411	60		E
88 KODA	12	0634E	0634	0708	S09	E82	.989	14029	18.4	34D	-N		P	0634	180	1.8	CDH
GRP63089	12	0810>9	0825+5	0832	S11	E75	.964	14029	18.0	22	-F						H
ISTA	12	0810		0830	S12	E73	.954	14029	17.8	20	-F						D
CATA	12	0820	0825	0840	S09	E74	.959	14029	17.9	20	1N	1		0825	112		H
HTPR	12	0828	0830	0832	S11	E77	.972	14029	18.1	4	-F		C	0830	30		E
90 HTPR	12	0928	0928	0930	S11	E77	.972	14029	18.2	2	-F		C	0928	20		
GRP63091	12	0950+5	0955+5	1012	S10	E71	.943	14029	17.7	22	1N				170		H
HTPR	12	0950	0955	1009	S11	E72	.949	14029	17.8	19	-F		C	0955	40		D
CATA	12	0955	1000	1015	S09	E72	.949	14029	17.8	20	1N	1		1000	168		
MONT	12	0958	0958	1005	S09	E70	.937	14029	17.7	7	-N		C	0958	180		
92 HTPR	12	1040	1045	1110	S12	E75	.963	14029	18.1	30	-F		C	1045	20		E
GRP63093	12	1113>9	1129+6	1148	S12	E76	.968	14029	18.2	35	-B						
HTPR	12	1113	1129	1140	S12	E75	.963	14029	18.1	27	-N		C	1129	40		
CATA	12	1125	1135	1155	S12	E77	.972	14029	18.3	30	1B	1		1135	112		
94 HTPR	12	1319E		1328	S12	E73	.954	14029	18.0	9D	-F		C	1324	20		

Hα SOLAR FLARES

JANUARY 1976

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS		MEASUREMENTS			REMARKS
	DATE 1976 JAN	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
GRP63095	12	1345	1350 1402	1425D	S12	E75	.963	14029	18.2	40	1N						E
CATA	12	1345	1350	1520D	S14	E76	.968	14029	18.3	95D	1N	1		1350	112		
HTPR	12	1350E		1355	S12	E73	.954	14029	18.1	5D	-F		C	1353	20		E
LOCA	12	1355	1402	1425	S10	E76	.968	14029	18.3	30	1N		V	1402	102	4.0	
HTPR	12	1400		1404D	S12	E73	.954	14029	18.1	4D	-N		C	1401	40		
96 RAMY	12	1500E	1501	1508D	S10	E76	.968	14029	18.3	8D	-F	3	V		48		DE
	12	1520	1726	NO FLARE PATROL													
97 PALE	12	1833	1857	1932	S12	E74	.959	14029	18.3	59	-F	2	C		40		
98 PALE	12	1945	1957	2002	S12	E73	.954	14029	18.3	17	-N	2	C		30		DE
99 PALE	12	2049	2053	2056D	S12	E72	.949	14029	18.3	7D	-N	2	C		26		DE
	12	2056	2109	NO FLARE PATROL													
100 PALE	12	2109E	2110U	2117D	S11	E72	.949	14029	18.3	8D	-N	2	C		40		DE
101 PALE	12	2200	2206	2247D	S12	E68	.925	14029	18.0	47D	-N	2	C		51		DE
	12	2209	2256	NO FLARE PATROL													
102 PALE	12	2255	2256	2300	S12	E68	.925	14029	18.1	5	-F	2	C		48		
GRP63103	13	0858+1	0900+5	0919	S13	E64	.897	14029	18.2	20	-N						EHZ
HTPR	13	0858	0900	0914	S12	E65	.904	14029	18.2	16	-N		C	0900	40	.7	
TEHR	13	0858E	0903U	0916D	S14	E62	.881	14029	18.0	18D	-B	2	C		48		H
BUCA	13	0859		0925	S12	E64	.896	14029	18.2	26	-N		C	0901	97	2.1	E
CATA	13	0900E	0900	0915D	S11	E64	.896	14029	18.2	15D	1B	2		0900	112	2.6	Z
ATHN	13	0903E	0905	0916	S14	E61	.873	14029	18.0	13D	-B	3	C		32		DE
ISTA	13	0905		0925	S13	E66	.911	14029	18.3	20	-N						E
104 HTPR	13	1029	1031	1037	S12	E65	.904	14029	18.3	8	-F		C	1031	20	.3	E
GRP63105	13	1402	1421+1	1426	S11	E62	.881	14029	18.2	24	-F				40	.9	
HTPR	13	1402	1421	1426	S12	E63	.889	14029	18.3	24	-F		C	1421	20	.3	E
RAMY	13	1421E	1422U	1426	S10	E62	.880	14029	18.2	5D	-F	4	V		50		FDE
RAMY	13	1421E	1422U	1426	S10	E62	.880	14029	18.2	5D	-F	4	C		50		FDE
GRP63106	14	0314+1	0316+1	0323	S11	E53	.797	14029	18.1	9	-N				60	1.0	DH
VORO	14	0314	0316	0323	S09	E51	.775	14029	18.0	9	-B		C	0316	90	1.5	C
PALE	14	0314	0317	0320	S12	E52	.787	14029	18.0	6	-B	3	C		41		H
MITK	14	0315	0316	0325	S11	E57	.837	14029	18.4	10	-F		C	0316	50	1.0	D
107 CULG	14	0820E	0822	0827D	S14	E53	.799	14029	18.3	7D	-F		C	0822	20	.3	
GRP63108	14	0827+2	0829	0837	S11	E53	.797	14029	18.3	10	-F				45	.8	D
HTPR	14	0827	0829	0833	S12	E53	.798	14029	18.3	6	-F		C	0829	40	.7	
BUCA	14	0829		0840	S11	E53	.797	14029	18.3	11	-F		C	0831	54	.3	D
109 HTPR	14	0858	0858	0901	S12	E55	.818	14029	18.5	3	-F		C	0858	10	.1	
GRP63110	14	0917+2	0919+3	0928	S11	E52	.787	14029	18.3	11	-N				35	.6	CH
TEHR	14	0917E	0919	0926D	S10	E49	.753	14029	18.1	9D	-N	3	C		48		H
ATHN	14	0917E	0920	0926	S12	E52	.787	14029	18.3	9D	-N	4	C		32		DE H
ATHN	14	0917E	0920	0926	S12	E52	.787	14029	18.3	9D	-N	4	V		32		DE H
ZURI	14	0918	0922	0938	S12	E53	.798	14029	18.4	20	-F		C	0922	51	.9	
HTPR	14	0918	0919	0927	S12	E54	.808	14029	18.4	9	-N		C	0919	30	.5	
MONT	14	0919	0920	0930	S11	E53	.797	14029	18.4	11	-F		C	0920	20		D
GRP63111	14	1040+0	1046+1	1055	S12	E53	.798	14029	18.4	15	-N						DH
HTPR	14	1040	1047	1054	S12	E53	.798	14029	18.4	14	-N		C	1047	90	1.4	
ZURI	14	1040	1046	1054	S12	E53	.798	14029	18.4	14	-F		C	1046	71	1.2	
KHAR	14	1043E	1047	1100D	S13	E53	.798	14029	18.4	17D	-N		C	1047	110	1.9	D
ATHN	14	1044E	1047	1055	S12	E52	.787	14029	18.3	11D	-N	4	V		32		H
ATHN	14	1044E	1047	1055	S12	E52	.787	14029	18.3	11D	-N	4	C		32		H
MONT	14	1046	1047	1054	S11	E53	.797	14029	18.4	8	-F		C	1047	40		DH

Hα SOLAR FLARES

JANUARY 1976

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE 1976 JAN	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Millionths of Disk	CORR AREA Sq. Deg.	
GRP63112	14	1155+1	1158+7	1211	S11	E52	.787	14029	18.4	16	-N						H
ATHN	14	1155	1203	1207	S12	E52	.787	14029	18.4	12	-B	4	C		16		DE H
ATHN	14	1155	1158	1207	S12	E52	.787	14029	18.4	12	-N	4	V		48		F H
HTPR	14	1156	1158	1210	S12	E52	.787	14029	18.4	14	-N		C	1158	70	1.1	
ZURI	14	1156	1158	1212	S12	E53	.798	14029	18.5	16	-N		C	1158	102	1.7	
MONT	14	1202E	1202	1211	S11	E52	.787	14029	18.4	9D	-F		C	1202	20		DH
RAMY	14	1204E	1205U	1215	S10	E50	.765	14029	18.3	11D	-N	3	C		60		F H
RAMY	14	1204E	1205U	1215	S10	E50	.765	14029	18.3	11D	-N	3	V		60		F H
GRP63113	14	1338+1	1341+1	1350	S11	E51	.776	14029	18.4	12	-N				50	.8	
ZURI	14	1338	1342	1352	S12	E52	.787	14029	18.5	14	-F		C	1342	51	.8	
HTPR	14	1338	1342	1346	S12	E52	.787	14029	18.5	8	-N		C	1342	50	.8	
ATHN	14	1339	1341	1350	S11	E50	.765	14029	18.3	11	-B	4	V		48		DE
ATHN	14	1339E	1341	1350	S11	E50	.765	14029	18.3	11D	-B	4	C		48		DE
GRP63114	14	1408+0	1410+1	1417	S12	E50	.766	14029	18.3	9	-F				60	.9	
ZURI	14	1408	1410	1418	S12	E51	.777	14029	18.4	10	-F		C	1410	51	.8	
HTPR	14	1408	1411	1416	S13	E50	.767	14029	18.3	8	-N		C	1411	70	1.0	
115 HTPR	14	1436	1437	1444	S13	E51	.778	14029	18.4	8	-F		C	1437	30	.5	
116 HTPR	14	1533	1537	1550	S13	E50	.767	14029	18.4	17	-N		C	1537	100	1.6	
	14	1600	1631	NO FLARE PATROL													
117 MCMA	14	1733E		1745D	S12	E47	.732	14029	18.3	12D	-F		C	1733	40	.6	E
GRP63118	14	1832+1	1835+6	1852	S11	E48	.743	14029	18.4	20	-B				60	.9	DH
MCMA	14	1832	1838	1850	S13	E49	.756	14029	18.4	18	-B		C	1838	50	.9	DH
RAMY	14	1832	1839	1932	S11	E49	.754	14029	18.4	60	-B	4	C		72		DE H
PALE	14	1833	1835U	1852D	S11	E46	.719	14029	18.2	19D	-B	3	C		54		DE
RAMY	14	1835E	1841	1847D	S11	E48	.743	14029	18.4	12D	-B	4	V		80		DE H
GRP63119	14	1859+7	1903+3	1915	S12	E46	.720	14029	18.2	16	-N				35	.5	E
MCMA	14	1859	1903	1919D	S13	E43	.756	14029	18.5	20D	-B		C	1903	40	.6	E
PALE	14	1906	1906	1910	S12	E43	.684	14029	18.0	4	-N	3	C		31		DE
	14	2142	2144	NO FLARE PATROL													
GRP63120	14	2152+0	2153+4	2214	S12	E42	.672	14029	18.1	22	-B				60	.8	H
PALE	14	2152	2153	2214	S12	E42	.672	14029	18.1	22	-B	3	C		63		HDE
PALE	14	2152	2157D	2157D	S12	E42	.672	14029	18.1	5D	-B	3	V		57		HDE
121 VORO	15	0146	0146	0159	S08	E41	.655	14029	18.1	13	-B		C	0146	91	1.1	DJ
GRP63122	15	0207+2	0209+1 0224+5	0240	S13	E41	.660	-0	18.2	33	-N						J
PALE	15	0207	0224	0241	S12	E38	.620	-0	17.9	34	-F	3	C		29		
CULG	15	0208E	0210	0240D	S14	E42	.675	-0	18.2	32D	-F		C	0210	30	.3	
VORO	15	0209	0209	0215	S12	E43	.684	-0	18.3	6	-B		C	0209	134	1.9	DJ
VORO	15	0227	0229	0238	S12	E44	.696	-0	18.4	11	-B		C	0229	81	1.1	DJ
123 ARCE	15	1050		1050D	S11	E36	.591	14029	18.2		-F		C	1050	30	.4	C
124 HTPR	15	1321	1324	1324	S12	E38	.620	14029	18.4	3	-F		C	1324	10	.1	
125 HTPR	15	1513	1517	1521	S11	E38	.618	14029	18.5	8	-F		C	1517	10	.1	
126 UPIC	16	0955	1000U	1005	S12	E25	.435	14029	18.3	10	-F		P	1000	82		
	16	1551	1604	NO FLARE PATROL													
	16	1625	1653	NO FLARE PATROL													
	16	1707	1803	NO FLARE PATROL													
GRP63127	16	1938+0	1940+0	1942D	S10	E18	.320	14029	18.2	4	-F				20	.2	
RAMY	16	1938	1940	1942D	S11	E18	.324	14029	18.2	4D	-F	3	V		20		DE
RAMY	16	1938	1940	1941D	S10	E18	.320	14029	18.2	3D	-F	3	C		20		DE
128 VORO	17	0137	0138	0147	S13	E16	.306	14029	18.3	10	-B		C	0138	72	.8	E
GRP63129	17	1040+1	1043	1050	S09	E12	.219	14029	18.3	10	-F				45	.5	D
KHAR	17	1040E		1050D	S09	E12	.219	14029	18.3	10D	-F		P	1040	55	.6	D
HTPR	17	1041	1043	1049	S09	E12	.219	14029	18.3	8	-F		C	1043	30	.3	
	17	2000	2006	NO FLARE PATROL													
	17	2016	2057	NO FLARE PATROL													

Hα SOLAR FLARES

JANUARY 1976

OBSERV-ATORY	OBSERVED UT				LOCATION					DURA-TION	IMPOR-TANCE	OBS.		MEASUREMENTS			REMARKS
	DATE 1976 JAN	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMP. DAY	MIN.		COND.	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
130 CULG	17	2142E	2142	2149D	S15	E02	.181	14029	18.1	7D	-F		C	2142	30	.3	
131 VORO	18	0154	0156	0203	S13	W02	.146	14029	17.9	9	-N		C	0156	27	.3	D
	18	0833	0905	NO FLARE PATROL													
	18	1008	1033	NO FLARE PATROL													
	18	1105	1117	NO FLARE PATROL													
GRP63132	18	1131	1133	1143	S13	W07	.186	14029	18.0	12	-F				80	.8	
RAMY	18	1131	1133	1141	S13	W08	.197	14029	17.9	10	-F	3	C		108		F
KHAR	18	1133E		1145D	S14	W07	.199	14029	18.0	12D	-F		P	1133	55	.6	D
133 HTPR	18	1347	1349	1403	S13	W08	.197	14029	18.0	16	-N		C	1349	30	.3	
134 HTPR	18	1412	1418	1436	S10	W03	.104	14029	18.4	24	-F		C	1418	20	.2	E
	18	2145	2150	NO FLARE PATROL													
	18	2201	2208	NO FLARE PATROL													
GRP63135	19	0208+1	0213+6	0242	S13	W11	.234	14029	18.3	34	-F				80	.8	
MITK	19	0208	0213	0240	S13	W11	.234	14029	18.3	32	-N		C	0213	80	.8	E
CULG	19	0209E	0219	0244D	S15	W10	.243	14029	18.3	35D	-F		P	0219	30	.3	
MANI	19	0216E	0216U	0219D	S12	W11	.224	14029	18.3	3D	-F	2	P	0216	80	.9	F
	19	0409	0415	NO FLARE PATROL													
	19	0417	0418	NO FLARE PATROL													
	19	0434	0444	NO FLARE PATROL													
	19	0455	0501	NO FLARE PATROL													
	19	0715	0725	NO FLARE PATROL													
	19	0735	0750	NO FLARE PATROL													
GRP63136	19	0820>9	0830	0906	S12	W15	.283	14029	18.2	46	-F				180	1.9	Z
ARCE	19	0820E		0912D	S11	W16	.292	14029	18.1	52D	-N		C	0835	124	1.3	TF
BUCA	19	0826		0900	S13	W14	.276	14029	18.3	34	-F		P	0835	215	2.1	E
CATA	19	0830	0830	0855D	S12	W16	.298	14029	18.2	25D	1F	1		0830	196	2.1	Z
	19	0909	0912	NO FLARE PATROL													
137 MONT	19	1145	1148	1152	S11	W21	.369	14029	17.9	7	-F		C	1148	20		D
	19	1434	1753	NO FLARE PATROL													
	19	1836	2044	NO FLARE PATROL													
	19	2048	2053	NO FLARE PATROL													
	19	2057	2117	NO FLARE PATROL													
	19	2133	2257	NO FLARE PATROL													
GRP63138	20	0142+1	0144+1	0203	S12	W25	.433	14029	18.2	21	-N						EHJU
VORO	20	0142	0145	0203	S12	W25	.433	14029	18.2	21	1N		C	0145	224	2.5	EJ
PALE	20	0143	0144	0202	S12	W25	.433	14029	18.2	13	-F	3	C		23		H U
	20	0550	0640	NO FLARE PATROL													
GRP63139	20	1251+0	1253+0	1259	S11	W28	.475	14029	18.4	8	-F				30	.3	E
HTPR	20	1251	1253	1258	S11	W29	.490	14029	18.4	7	-F		C	1253	20	.3	
MONT	20	1251	1253	1300	S12	W28	.478	14029	18.4	9	-F		C	1253	40		E
140 HTPR	20	1411	1413	1427	S13	W35	.580	14029	18.0	16	-F		C	1413	10	.2	E
141 HTPR	20	1527	1527	1535	S13	W36	.593	14029	17.9	8	-F		C	1527	10	.2	
	20	1540	1545	NO FLARE PATROL													
	20	2203	2310	NO FLARE PATROL													
142 HTPR	21	0933	0933	0943	S12	W46	.719	14029	17.9	10	-F		C	0933	10	.2	E
	21	2122	2136	NO FLARE PATROL													
	21	2150	2350	NO FLARE PATROL													
	21	2353	0000	NO FLARE PATROL													
	22	1554	1615	NO FLARE PATROL													
	22	2125	0023	NO FLARE PATROL													
	23	0026	0031	NO FLARE PATROL													
	23	0231	0233	NO FLARE PATROL													
	23	0351	0420	NO FLARE PATROL													
	23	0536	0600	NO FLARE PATROL													
	23	1847	1855	NO FLARE PATROL													
	23	1906	2037	NO FLARE PATROL													
	23	2057	2140	NO FLARE PATROL													

Hα SOLAR FLARES

JANUARY 1976

OBSERVATORY	OBSERVED UT				LOCATION					DURATION	IMPORTANCE	OBS.		MEASUREMENTS			REMARKS
	DATE 1976 JAN	START	MAX. PHASE	END	APPROX LAT.	APPROX MER. DIST.	CENTRAL DISTANCE	McMATH PLAGE REGION	CMR. DAY	MIN.		COND	TYPE	TIME UT	MEAS. AREA Mill. of Disk	CORR AREA Sq. Deg.	
	23	2145	2250	NO FLARE PATROL													
	23	2301	2312	NO FLARE PATROL													
	24	0643	0720	NO FLARE PATROL													
	24	2031	2053	NO FLARE PATROL													
	24	2056	2141	NO FLARE PATROL													
	24	2201	2258	NO FLARE PATROL													
	24	2325	2337	NO FLARE PATROL													
	25	1603	1651	NO FLARE PATROL													
	25	1655	1708	NO FLARE PATROL													
	25	1838	1932	NO FLARE PATROL													
	25	2040	2103	NO FLARE PATROL													
	25	2150	2320	NO FLARE PATROL													
	25	2334	2335	NO FLARE PATROL													
	26	0957	1005	NO FLARE PATROL													
	26	1259	1325	NO FLARE PATROL													
	26	1330	1355	NO FLARE PATROL													
	26	1440	1455	NO FLARE PATROL													
	26	1510	1546	NO FLARE PATROL													
	26	1559	1828	NO FLARE PATROL													
	26	1829	2014	NO FLARE PATROL													
	26	2052	2100	NO FLARE PATROL													
	26	2105	2114	NO FLARE PATROL													
	26	2125	2132	NO FLARE PATROL													
	26	2135	2159	NO FLARE PATROL													
	27	2134	2142	NO FLARE PATROL													
	28	0009	0020	NO FLARE PATROL													
GRP63143	28	0956+0	1001+3	1018	S05	W07	.122	14047	27.9	22	-F		C	1001	20	.2	G
HTPR	28	0956	1001	1018	S04	W06	.108	14047	28.0	22	-F		C	1001	20	.2	
MONT	28	0956	1004	1018	S06	W08	.139	14047	27.8	22	-F		C	1004	20		G
144 HTPR	28	1222	1228	1231	N07	E58	.859	14049	1.9	9	-F		C	1228	10	.2	
145 HTPR	28	1515	1517	1600	N07	E56	.842	14049	1.8	45	-F		C	1517	10	.2	
	28	1626	1727	NO FLARE PATROL													
	28	2022	2031	NO FLARE PATROL													
	28	2145	2205	NO FLARE PATROL													
146 MONT	29	1228	1235	1244	N07	E45	.728	14049	1.9	16	-F		C	1235	20		
	29	1603	1614	NO FLARE PATROL													
	29	1618	1622	NO FLARE PATROL													
	29	1730	1733	NO FLARE PATROL													
	29	1745	1754	NO FLARE PATROL													
	29	1837	1902	NO FLARE PATROL													
	29	1907	1921	NO FLARE PATROL													
	29	1940	2320	NO FLARE PATROL													
	29	2358	0007	NO FLARE PATROL													
	30	1525	1530	NO FLARE PATROL													
	30	1533	1810	NO FLARE PATROL													
	30	1813	1824	NO FLARE PATROL													
	30	1859	1909	NO FLARE PATROL													
147 HUAN	30	1913E		1916D	N05	W90	1.000	14052	24.1	30	-F	*	P	1913	15		D
	30	1917	2319	NO FLARE PATROL													
	31	1432	1435	NO FLARE PATROL													
	31	1440	1928	NO FLARE PATROL													
	31	1944	1957	NO FLARE PATROL													
	31	2003	2015	NO FLARE PATROL													

"Remarks":

A = Eruptive prominence whose base is less than 90° from central meridian.
B = Probably the end of a more important flare.
C = Invisible 10 minutes before.
D = Brilliant point.
E = Two or more brilliant points.
F = Several eruptive centers.
G = No visible spots in the neighborhood.
H = Flare accompanied by a high speed dark filament.
I = Active region very extended.
J = Distinct variations of plage intensity before or after the flare.
K = Several intensity maxima.
L = Existing filaments show signs of sudden activity.
M = White-light flare.
N = Continuous spectrum shows effects of polarization.
O = Observations have been made in the calcium II lines H and K.
P = Flare shows helium D_3 in emission.
Q = Flare shows the Balmer continuum in emission.
R = Marked asymmetry in Hα line suggests ejection of high velocity material.
S = Brightness follows disappearance of filament (same position).
T = Region active all day.
U = Two bright branches, parallel (||) or converging (Y).
V = Occurrence of an explosive phase: important and abrupt expansion in about a minute with or without important intensity increase.
W = Great increase in area after time of maximum intensity.
X = Unusually wide Hα line.
Y = System of loop-type prominences.
Z = Major sunspot umbra covered by flare.

JANUARY 1976

DAILY FLARE INDICES
Includes all Flares

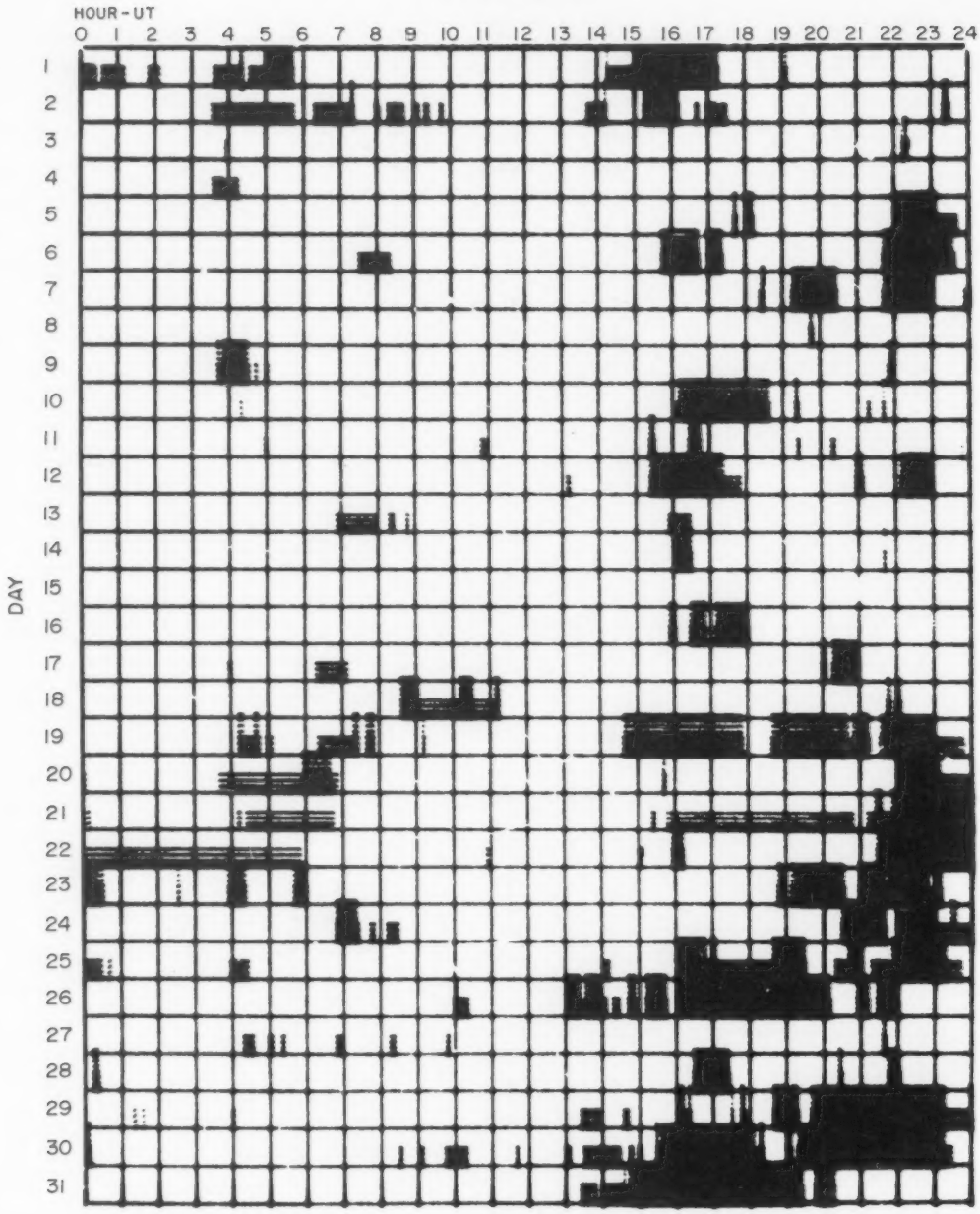
Date	Flare Index	HR. OBS.	Date	Flare Index	HR. OBS.	Date	Flare Index	HR. OBS.
760101	3.13	20.7	760112	33.45	20.9	760122	0.00	20.7
760102	0.00	22.7	760113	2.53	24.0	760123	0.00	19.4
760103	0.00	23.9	760114	24.96	23.5	760124	0.00	21.1
760105	.87	22.6	760115	13.93	24.0	760125	0.00	20.2
760106	0.00	20.7	760116	5.76	22.4	760126	0.00	17.1
760107	0.00	21.3	760117	11.88	23.2	760127	0.00	23.9
760108	0.00	23.9	760118	19.79	22.7	760128	2.99	22.3
760109	0.00	23.1	760119	31.78	15.9	760129	2.23	19.1
760110	0.00	21.3	760120	13.20	22.0	760130	1.18	16.9
760111	9.50	23.5	760121	2.06	21.7	760131	0.00	18.7

When no Flare Index is given, it is 0 for that day.

INTERVALS OF NO FLARE PATROL OBSERVATION

FOR PRECEDING SOLAR FLARE TABLE

JANUARY 1976



Observatories included in total patrol:

Abastumani	Catania	Hurbanovo	Lvov	Palehua	Upice
Arcetri	Culgoora	Istanboul	Manila	Ramey	Voroshilov
Athenes	Haute Provence	Kharkov	McMath-Hulbert	Tachkent	Wendelstein
Boulder	Herstmonceux	Kodaikanal	Mitaka	Tehran	Zürich
Bucharest	Huancayo	Locarno	Monte Mario		

Times of no flare patrol are shown by the shaded area for each day divided into times of no cinematographic patrol (bottom half of day) and times of neither visual nor cinematographic patrol (top half of day).

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
JANUARY 1976

JAN 1976	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
1	127	TORN	5 S	1133 U	1134 U	2.5	5	3		
2	720	SYDN	45 C	0320.2	0320.5	3.2				
	720	SYDN	4 S/F	0357.3	0359.3	4.2				
	720	SYDN	40 F	0411	0411.2	30.5				
3	1420	ARCE	1	0811.7	0812.2	1.2				
	9240	ARCE	3	0812	0812.5	1.4				DISTUR
4	550	KIEV	40 F	1140	1142.9	6.5	4			
	4995	BOUL	1 S	1834.5	1836	2	7	2		
	4995	BOUL	1 S	1841.5	1842	2.5	10	3		
5	720	SYDN	2 S/F	0339.4	0339.6	3.5				
	1420	ARCE	20	0812.8	0830	34				
	9240	ARCE	22	0826	0843.9	45				
	550	KIEV	32 ABS	1158		20				
	550	KIEV	40 F	1208	1209.1	2	3			
6	930	BORD	1 S	0814.2	0814.2	0.1	12	2		
7	720	SYDN	45 C	0411.7	0432	22.6				
	3100	CRIM	24 F	0912	0935		4			
8	720	SYDN	45 C	0254.2	0257.1	5				
	720	SYDN	8 S	0341.2	0341.7	0.6				
	550	KIEV	2 S/F	0816.5	0816.8	1.3	4			
	260	ONDR	8 S	0853.2	0853.2	0.2	24			
	9240	ARCE	20	1314.6	1315.4	15				
	1420	ARCE	20	1314.7	1326.8	26				
9	1400	SYDN	2 S	0256.5	0256.6	0.5				
	9240	ARCE	20	0855.9	1024.5	184				
	18	MCMA	6 S	1555	1557	2			1	
	1420	BOUL	45 C	2246.5	2246.5	1.5	8	3		
	2695	BOUL	1 S	2247.5	2248	3	2	1		
10	550	KIEV	40 F	1129	U	36.5	4			
	550	KIEV	31 ABS	1206		17.5				
11	9240	ARCE	2	1013.5	1013.7	1.2				
	9240	ARCE	20	1049	1052.6	95				
	245	SGMR	6 S	1832.9	1838.4	17.4	30.8	9.2		
	410	SGMR	6 S	1935.4	1935.7	6	6.4	1.9		
	245	SGMR	6 S	1935.5	1935.6	.2	3.5	1.1		
	2800	OTTA	240 R	1940	2000	20	3	1.5		
	2695	PENT	24P R	2000		160 D	3			
	207	VORO	42 SER	2304	0036	101	196			
12	3750	TYKW	20 GRF	0220	0300	130	2	1		OR
	9400	TYKW	20 GRF	0220	0245	120	3	1		OR
	1000	TYKW	45 C	0224.7	0225.3	1.2	1.7	0.5		JL
	2000	TYKW	20 GRF	0240	0315	110	1.7	0.9		OL
	1400	SYDN	8 S	0310.5	0310.6	0.2				
	1400	SYDN	8 S	0311.7	0311.8	0.2				
	1400	SYDN	8 S	0312.4	0312.5	0.2				
	9400	TYKW	20 GRF	0510	0530	60	3	1		OR
	2000	TYKW	20 GRF	0510	0530	60	0.9	0.4		OL
	3750	TYKW	20 GRF	0510	0530	60	2	1		OR
	1000	TYKW	45 C	0514.5	0515.7	1.7	4.5	1		JL
	1000	TYKW	45 C	0631.5	0631.8	0.9	27	4		JL
	127	TORN	41 F	0740 E	0821.5	180 D	30			
	100	GORK	43 NS	0757		183		5		
	200	GORK	43 NS	0800		120		5		
	221	ABST	45 C	0812.2	0812.8	0.8	65	38		
	100	GORK	41 F	0813.2	0813.7	1.2	30			
	100	GORK		0813.2	0814.1		100			
	200	GORK	6 S	0813.2	0813.8	1.1	400			
	113	POTS	41 F	0813.5	0830	11	175	2		
	221	ABST	41 F	0818.2	0819.2	45	45			
	100	GORK	41 F	0819.4	0819.7	5.7	30			
	100	GORK		0819.4	0821.1		30			
	100	GORK		0819.4	0824		30 D			
	260	ONDR	45 C	0819.5	0821.2	6	29	3.2		SUNRISE
	200	GORK	41 F	0820.2	0820.5U	4	70 D			
	200	GORK		0820.2	0824 U		70 D			
	100	GORK	41 F	0946.2	0948	4.2	40			
	100	GORK		0946.2	0949.4		40 D			
	260	ONDR	45 C	0947.6	0949.4	3.4	36	1		
	200	GORK	41 F	0947.7	0947.8	2.3	90 D			
	200	GORK		0947.7	0949.3		90 D			
	113	POTS	41 F	0947.9	0949.3	1.5	175	4		
	100	GORK	41 F	1002	1002.1	2.8	30			
	100	GORK		1002	1004.2		40			

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JANUARY 1976

JAN 1976	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} MEAN	INT	POLARIZATION OR REMARKS
	200	GORK	6 S	1003	1003.5	1.8	90 D			
	200	GORK		1003	1004.2		50			
	260	ONDR	4 S/F	1003	1004.4	4	10	2.1		
	260	ONDR	45 C	1055.5	1056.7	2	10	3		
	1400	SYDN	1 S	1224.1	1224.2	0.3				
	9240	ARCE	21	1227.8	1341	141				DISTUR
	9240	ARCE	8	1230.9	1230.9	0.6				
	2800	OTTA	8 S	1454.9	1455	0.3	1	0.5		
	2800	OTTA	27F RF	1700		310	2.4	1.2		
	2800	OTTA	24 R	1700	1735	35	2.4	1.2		
	2800	OTTA	24P R	1735		235	2.4			
	2695	BOUL	8 S	1930.5	1931	1	11	4		
	2695	PENT	26 FAL	2130	2210	40	-2.4	-1.2		
	200	HIRA	44 NS	2145 E	0433	595 D	8	3		SR
	207	VORO	44 NS	2300	0158	240	15			
13	221	ABST	44 NS	0500	0535.8	240	13			
	221	ABST	45 E	0535	0535.8	1	60	39		
	200	GORK	44 NS	0630		330		90		
	100	GORK	43 NS	0630 E		330 D		5		
	221	ABST	46 C	0636.2	0642.2	8	43	22		
	127	TORN	43 NS	0825.5		345 D				
	221	ABST	45 C	0829.5	0830.8	2	30	17		
	260	ONDR	44 NS	0838 E		321 D	118	17		
	410	SGMR	44 NS	1217 E	1451.2	550 D	42.9			
	245	SGMR	44 NS	1217 E	1258.2	550 D	300			
	200	HIRA	44 NS	2145 E	2327	595 D	18	8		SR
	207	VORO	44 NS	2300	0044	240	21			
	9100	GORK	20 GRF	0857	0859	67.5	7.7	4.3		
	234	POTS	45 C	1145	1145.1	0.3	450	90		
	9240	ARCE	3	1419.5	1419.6	0.9				DISTUR
	9240	ARCE	29	1420.4		4.5				
14	2000	TYKW	5 S	0311.8	0312.3	1.2	4.2	1.3		40R
	1000	TYKW	5 S	0311.8	0312.3	1.2	0.9	0.3		0L
	1415	PALE	1 S	0312	0312.5	.8	5.5	1.6		
	3750	TYKW	5 S	0312	0312.3	1	1.5	0.5		
	1000	TYKW	45 C	0316	0317.6	7	2.1	0.6		0L
	2000	TYKW	45 C	0317	0318.5	2.5	0.5	0.2		0L
	3750	TYKW	5 S	0317	0318.4	2.5	1	0.5		
	1000	TYKW	5 S	0519.9	0520	0.6	0.6	0.3		0L
	2000	TYKW	5 S	0519.9	0520.1	0.7	2.2	0.6		55R
	3750	TYKW	5 S	0519.9	0520.1	0.6	1.5	0.5		0R
	100	GORK	43 NS	0606 E		297		5		
	200	GORK	44 NS	0606 E		228 D		5		
	127	TORN	44 NS	0740 E		390 D				
	260	ONDR	44 NS	0820 E		340 D	70	5		
	8800	ATHN	1 S	0720.2	0721.3	1.7	7.1	2.1		
	2695	ATHN	3 S	0721.1	0721.4	.5	10.5	3.2		
	1415	ATHN	1 S	0721.1	0721.4	.5	1.5	.2		
	9500	BERL	22 GRF	0855	0923	40	33			
	9240	ARCE	24	0902.3		63.5				DISTUR
	536	ONDR	45 C	0916.6	0923.8	10	31	1.7		
	808	ONDR	45 C	0916.8	0916.8	1.5	18	5		SUNRISE
	1415	ATHN	1 S	0917	0918.4	2	3.1	.9		
	930	BORD	45 C	0917.7	0918.1	0.5	11	2		
	2695	ATHN	1 S	0918	0918.4	1.1	6	1.8		
	8800	ATHN	1 S	0918.2	0918.4	1.2	7.4	2.2		
	1470	BERL	2 S/F	0921.6	0923	2.4	2.9			
	808	ONDR	45 C	0921.7	0921.9	1.6	70	4		
	930	BORD	45 C	0922.2	0922.2	1	9	2		
	3000	BERL	4 S/F	0922	0923.2	8	7.1	1.8		
	808	ONDR	8 S	1020.8	1020.8	0.2	50			
	536	ONDR	4 S/F	1040	1040.8	2	12	2.8		
	510	BERL	45 C	1045.3	1045.5	1.6	54	3		
	1420	ARCE	1	1045.3	1045.7	0.8				
	930	BORD	45 C	1045.4	1045.9	1.6	53	4		
	2695	ATHN	3 S	1045.4	1045.7	1.9	34.3	10.3		
	8800	ATHN	1 S	1045.5	1045.7	.9	7.4	2.2		
	1415	ATHN	1 S	1045.5	1045.7	1.4	5.5	1.7		
	9240	ARCE	1	1045.6	1046	0.8				
	536	ONDR	45 C	1045.8	1046.4	3	70	10.5		
	1470	BERL	2 S/F	1045	1045.5	2	4.9	1.6		
	3000	BERL	4 S/F	1045	1045.5	1.7	41			
	9500	BERL	1 S	1045	1045.5	1	5.3			
	808	ONDR	4 S/F	1055.2	1055.2	2	35	5		
	536	ONDR	8 S	1134.5	1134.5	0.2	15			
	9500	BERL	21 GRF	1150	1158.5	20	7.6			
	7000	SAOP	40 F	1155.5	1157.6	2.4	5.3			ROF
	930	BORD	42 SER	1155.5	1159	4.5	246	3		
	536	ONDR	45 C	1155.9	1156.2	16.5	70	3		
	8800	ATHN	20 GRF	1155.9	1205.7	10.1	16.6	10		
	8800	ATHN	29 PBI	1206	1206	15	3.7	1.1		
	1415	ATHN	22 GRF	1155.9	1158.6	10	21.8	13.1		
	1415	ATHN	29 PBI	1205.9	1205.9	13.7	1.6	.5		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
JANUARY 1976

JAN 1976	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
	808	ONDR	45 C	1155	1157.3	11.5	220	4		
	3000	BERL	4 S/F	1155	1156	2	7.1			
	1470	BERL	4 S/F	1155	1158.5	4.5	11	1.6		
	2695	ATHN	1 S	1156	1205.6	9.7	6	1.8		
	2695	ATHN	29 FBI	1205.7	1205.7	14.7	3	.9		
	510	BERL	40 F	1203	1205	3.7	24	2		
	7000	SAOP	2 S/F	1204.6	1205.2	2	15.9	8		ROF
	930	BORD	45 C	1205	1205.2	1	12	3		
	9240	ARCE	1	1205.3	1205.8	1.4				
	1420	ARCE	2	1205.4	1205.6	0.7				
	1470	BERL	2 S/F	1205	1205.5	1	3.5			
	3000	BERL	3 S	1205	1205.5	1	6.7			
	9500	BERL	3 S	1205	1205.5	1	13			
	7000	SAOP	40 F	1209.4	1209.7	0.5	3.5			ROF
	7000	SAOP	40 F	1327.8	1340.4	3.6	10.6			ROF
	9240	ARCE	22	1331	1341.3	48				
	510	BERL	40 F	1337.5	1340.7	5	125 U	3		
	930	BORD	42 SER	1338.3	1341	3.7	20	4		
	1420	ARCE	22	1338.7	1341	16.7				
	9500	BERL	20 GRF	1338	1340.5	12	6.6			
	535	ONDR	45 C	1338	1342.2	4.5	77	7		
	1470	BERL	22 GRF	1338	1341.5	5	5.2			
	3000	BERL	22 GRF	1338	1339.8	3.5	3.6			
	234	POTS	45 C	1340.8	1340.8	0.1	200	50		
	113	POTS	6 S	1340.8	1340.8	0.1	150	50		
	2800	OTTA	23 GRF	1400		210	2.2	1.6		
	930	BORD	42 SER	1408.4	1409.5	2.6	39	2		
	930	BORD	42 SER	1434.7	1435	0.6	11	2		
	930	BORD	42 SER	1533.2	1534.4	1.3	57	2		
	2800	OTTA	1 S	1534	1535	6	1	0.6		
	2800	OTTA	40 F	1628.8	1632.3	6	7.8			
	2800	OTTA	21 GRF	1831	1845	30	1.4	0.8		
	2800	OTTA	1 S	1833	1834	2	4.4	1.4		
	1420	BOUL	1 S	1833	1833.5	2	1			
	2695	PENT	20 GRF	1955	2050	100	1.6	1		
	2695	PENT	26F FAL	2140	2210	30	-1.8	-1.2		
	200	HIRA	44 NS	2145 E	0203	595 D	21	4		SR
	207	VORO	44 NS	2300	0221	240	20			
15	720	SYDN	8 S	0145.8	0146.1	0.5				
	100	GORK	43 NS	0627 E		333		5		
	200	GORK	44 NS	0630		330 D		5		
	221	ABST	43 NS	0700	0742	120	8			
	260	ONDR	44 NS	0820 E		340 D	31			
	127	TORN	5 S	0826	0828.5	4.5	10	3		
	9240	ARCE	20	1009.7	1038.4	107				
	245	SGMR	44 NS	1216 E	1225.6	554 D	20			
	2695	PENT	20 GRF	1920	1923	92	2.2	1.1		
	2800	OTTA	20 GRF	1920	1923	11	1.4	0.7		
16	207	VORO	44 NS	0001	0112	149	21			
	260	ONDR	44 NS	0820 E		340 D	9			
	245	SGMR	44 NS	1215 E	1713.9	556 D	21.2			
	2800	OTTA	1 S	1714.9	1715.5	3	1.8	0.6		
	1420	BOUL	1 S	1714	1715	2.5	1			
	2695	BOUL	22 GRF	1715	1716	7.5	3	1		
	207	VORO	44 NS	2300	0030	120	11			
17	3750	TYKH	5 S	0136	0137	3	2	1		OR
	221	ABST	41 F	0513	0514.2	18	28			
	200	HIRA	45 C	0536.5	0537.7	2.5	280	30		WR
	100	HIRA	45 C	0537	0538 U	2	2000 D	200 D		WL
	200	GORK	44 NS	0610 E		350 D		10		
	260	ONDR	44 NS	0650 E		430 D	21	3		
	127	TORN	44 NS	0700 E	1227	430 D	14			
	221	ABST	43 NS	0741.2	0753.2	90	10			
	100	GORK	43 NS	0927.5		57		5		
	100	GORK	41 F	0836.2	0837.6	3.9	40			
	100	GORK		0836.2	0838.7		45 D			
	100	GORK		0836.2	0839.4		45 D			
	100	GORK	41 F	0844.8	0848.8	9.7	5			
	100	GORK		0850.2	0850.2		5			
	100	GORK		0850.2	0851.2		4			
	100	GORK		0850.2	0853.6		4			
	113	POTS	45 C	0914	0914.5	2.5	140	20		
	100	GORK	46 C	0914.5	0915	2.6	45			
	100	GORK		0914.5	0915.6		45			
	100	GORK		0914.5	0916.6		45			
	200	GORK	41 F	0914.6	0915.3	3.1	70 D			
	200	GORK		0914.6	0917.1		70			
	200	GORK	41 F	1036.7	1036.8	2.3	20			
	200	GORK		1036.7	1038.9		10			
	100	GORK	41 F	1037.3	1037.8	2.6	15			
	100	GORK		1037.3	1039.6		45			
	127	TORN	5 S	1204.8	1205.5	1.2	70 D			OFF SCALE

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES
JANUARY 1976

JAN 1976	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
	113	POTS	45 C	1204.9E	1205.1	0.5D	700			
	113	POTS	40 F	1239.1	1239.1	0.3	100	6		
	2695	PENT	8 S	2142.3	2142.3	0.1E	12.5			
	200	HIRA	45 C	2228.5	2228.8	1	300	40		WR
	100	HIRA	45 C	2228.5	2228.9U	1	2000 D	300 D		WL
	207	VORO	44 NS	2300	0023	193	10			
18	2930	VORO	20 GRF	0225	0237	32	4.4			
	260	ONDR	44 NS	0800 E		366 D	158	5		
	7000	SAOP	1 S	1126.2	1126.8	1.8	15.6	7.8		LOF
	260	ONDR	46 C	1130	1133.4	8	158	13		
	260	ONDR	29 FBI		1146	26.5	8	6		
	127	TORN	45 C	1131.2	1133.5	4.5	80 D	25 D		OFF SCALE
	6100	KISV	29	1132	1133.2	5	11			
	100	GORK	41 F	1132.2	1132.8	2.6	480			
	100	GORK		1132.2	1133.5		3000			
	950	GORK	1 S	1132.4	1133.5	2.6	4.7	2		
	536	ONDR	2 S/F	1132.5	1133.2	3	10	4.6		
	808	ONDR	3 S	1132.5	1133.6	2	7.5	3.7		
	113	POTS	45 C	1132.5	1133.3	1.2	3100	200		
	234	POTS	45 C	1132.5	1133.2	1.2	500	80		
	1470	BERL	3 S	1132.5	1133.2	1.5	18	7.8		
	9500	BERL	3 S	1132.5	1133.2	5.5	11	3.9		
	550	KIEV	6 S	1132.5	1133	1.3	10			
	2950	GORK	3 S	1132.6	1133.2	1.1	14	7		
	2950	GORK	29 FBI	1132.6	1133.7	3.2	6.5			
	650	GORK	3 S	1132.7	1133.4	2	6.2	3		
	1420	ARCE	8	1132.9	1133.1	0.8				
	3000	BERL	4 S/F	1132	1133.2	9.5	11	2.1		
	3100	CRIM	1 S	1133	1134	2	7	2		
	9240	ARCE	1	1133	1133.3	1.2				
	127	TORN	27 RF	1138	1146 U	27	30			
	127	TORN			1159.5	1	60 D	40 U		OFF SCALE
	3100	CRIM	24 R	1144	1154		2			
	550	KIEV	40 F	1154	1154.2	1.2	8			
	245	SGMR	6 S	1345.7	1348.2	4.4	101.2	30.4		
	7000	SAOP	1 S	1347.7	1348.4	1.7	3.2	1.6		LOF
	260	ONDR	46 C	1347	1347.8	4.5	39	6.8		
	127	TORN	45 C	1348	1348.5	2.5	140 D	50 U		OFF SCALE
	2695	PENT	1 S	1348	1348.7	1.5	1.4	0.7		
	113	POTS	45 C	1348	1348.3	0.6	2500	150		
	127	TORN	40 F	1356.5	1356.6	13.5D	12			SUNSET
	18	MCMA	6 S	1502	1504	2			1	
	245	SGMR	6 S	2103.5	2104.6	13.2	40.5	13.7		
	245	SGMR	6 S		2108.4		45.8			
	207	VORO	44 NS	2300	0246	240	17			
19	2930	VORO	4 S/F	0317	0317.5	2	47			
	221	ABST	44 NS	0500	0816.2	240	13			
	200	GORK	44 NS	0623 E		337 D		40		
	100	GORK	43 NS	0706		300 D		5		
	260	ONDR	44 NS	0815 E		353 D	135	5		
	160	OWIN	44 NS	0835 E	1205	265 D	80	8		
	234	OWIN	44 NS	0835 E	1205	265 D	20	7		
	250	OWIN	44 NS	0835 E	1205	265 D	20	7		
	127	TORN	43 NS	1142	1146.5	102	200			
	245	SGMR	44 NS	1214 E	2005.9	561 D	63.8			
	200	HIRA	44 NS	2145 E	0244	605 D	18	6		SR
	207	VORO	44 NS	2300	0245	240	25			
	100	GORK	41 F	0912.4	0912.6	0.8	40			
	100	GORK		0912.4	0912.8		30			
	100	GORK	41 F	1133	1133.7	18	70			
	100	GORK		1133	1138.6		70 D			
	100	GORK		1133	1143.6		70 D			
	100	GORK		1133	1150.2		70 D			
	250	OWIN	45 C	1138.5	1144	8	1000	20		
	234	OWIN	45 C	1138.5	1144	8	1000	30		
	160	OWIN	45 C	1138.5	1139	8	400	40		
	200	GORK	4 S/F	1138.6	1138.9	1.6	70 D			
	113	POTS	41 F	1138.7	1139.8	7.7	200	10		
	234	POTS	41 F	1138.7	1146.2	7.7	450	10		
	7000	SAOP	1 S	1306.4	1307.2	1.6	3.9	1.9		ROF
	245	SGMR	6 S	1306.8	1307.1	2.4	111.3	33.4		
	113	POTS	6 S	1330.9	1331	0.1	150	50		
	113	POTS	45 C	1414.3	1414.7	0.8	1400	160		
	245	SGMR	6 S	1711.5	1712	8.6	36	13.8		
	245	SGMR	6 S	1850.6	1851.2	1.8	145.6	43.7		
	245	SGMR	6 S		1717.3		46			
20	221	ABST	43 NS	0500	0535.2	60	14			
	200	GORK	44 NS	0615 E		350 D		5		
	260	ONDR	44 NS	0820 E		332 D	37			
	100	GORK	4 SF	1149.5	1149.8	1.1	20			
	200	GORK	4 S	1149.6	1149.8	0.7	40	20		
	234	POTS	45 C	1207.7	1208	0.4	130	15		

SOLAR RADIO EMISSION
OUTSTANDING OCCURRENCES

JANUARY 1976

JAN 1976	FREQUENCY	STATION	TYPE	STARTING TIME UT	TIME OF MAXIMUM UT	DURATION MINUTES	FLUX DENSITY 10^{-22} Wm^{-2} Hz^{-1} PEAK	FLUX DENSITY MEAN	INT	POLARIZATION OR REMARKS
	113	POTS	45 C	1207.8	1207.8	0.4	200	25		
	245	SGMR	6 S	1410.7	1411.3	1.1	31	6.2		
	113	POTS	45 C	1410.9	1411	0.3	175	10		
	245	SGMR	6 S	1522.8	1523.2	2.4	46.1	13.8		
21	200	GORK	44 NS	0627 E		333 D		5		
	260	ONDR	44 NS	0814 E		348 D	28			
	245	SGMR	44 NS	1212 E	1432.2	565 D	58			
	200	GORK	41 F	0627.7	0630.4U	9.8	70 D			
	200	GORK		0627.7	0633.2U		70 D			
	200	GORK		0627.7	0636.8		70			
	100	GORK	41 F	0629.8	0629.9U	7.5	35 D			
	100	GORK		0629.8	0631.1U		35 D			
	100	GORK		0629.8	0633.2		15			
	100	GORK		0629.8	0636.9		10			
	221	ABST	41 F	0827.2	0827.8	1	28			
	100	GORK	41 F	1009.5	1009.7U	5	40 D			
	100	GORK		1009.5	1012.5U		40 D			
	100	GORK		1009.5	1013.8U		40 D			
22	260	ONDR	44 NS	0810 E		348 D	6			
23	100	HIRA	45 C	0032.5	0033.4	1	180	70		WL
	200	HIRA	45 C	0032.5	0033.4	1	60	10		WR
	207	VORO	4 SF	0032	0032.5	1	44			
	100	HIRA	45 C	0240	0240.2	1	320	95		WL
	200	HIRA	45 C	0240	0240.5	1	160	50		WRWL
	207	VORO	4 SF	0240	0241	2	82			
	2695	BOUL	45 C	1957.5	2000	3.5	3	1		
24	18	MCMA	6 S	1940	1941	2			1	
26	550	KIEV	27 RF	0835.5	U	5.7	2			
29	260	ONDR	4 S/F	1140.8	1141.8	2	36	3		
	536	ONDR	4 S/F	1140.8	1141.5	2.5	24	4.5		
	808	ONDR	8 S	1141.2	1141.2	0.2	22			
	930	BORD	45 C	1532.8	1532.9	0.1	9	2		
30	930	BORD	1 S	1515.7	1515.7	0.1	9	1		

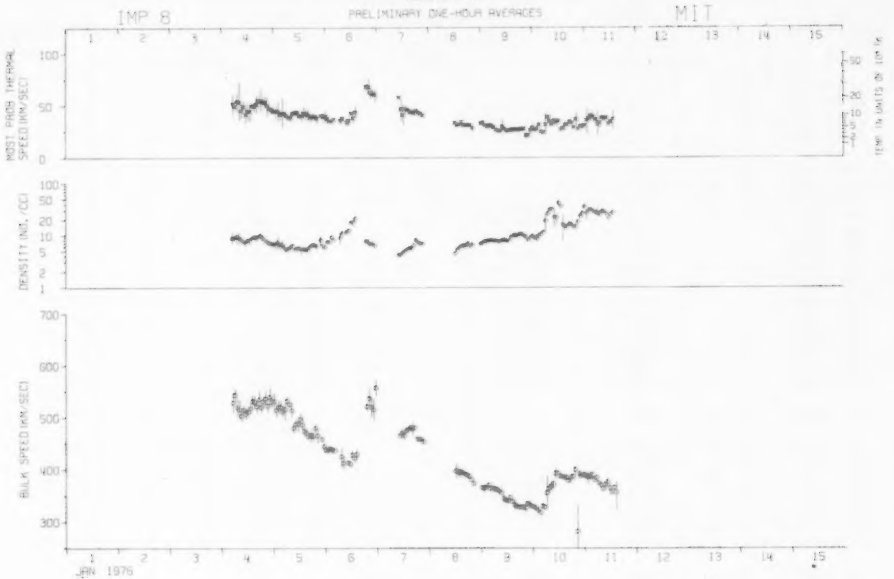
Reports received from the following observatories:

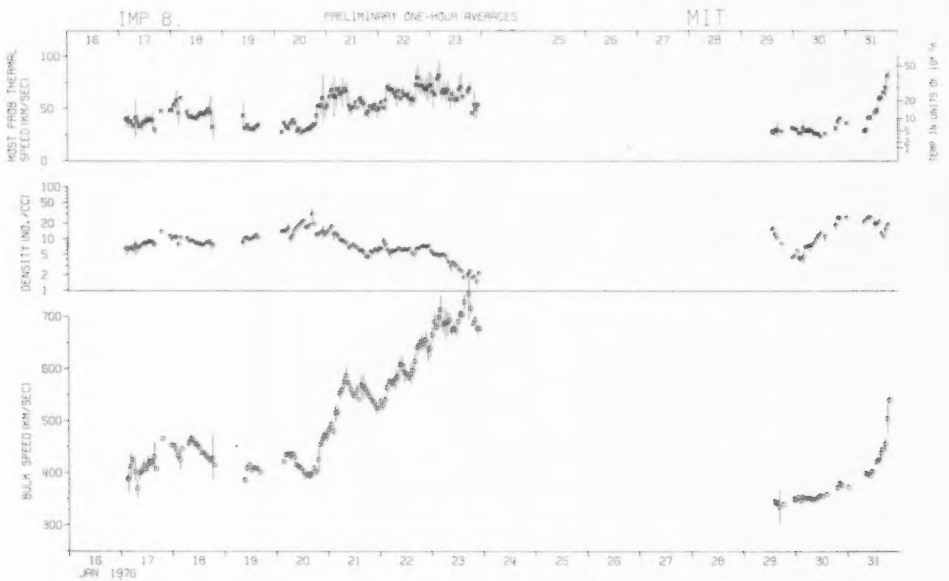
ABST = Abastumani
ARCE = Arcetri
BERL = Berlin-Adlershof
BORD = Bordeaux
BOUL = Boulder
CRIM = Simferopol
ATHN = Athens
DWIN = Dwingeloo
GORK = Gorky
HIRA = Hiraiso
HUAN = Huancayo
KIEV = Kiev
KISV = Kislovodsk
MANI = Manila
MCMA = McMath-Hulbert
ONDR = Ondrejov
OTTA = Ottawa
PENT = Penticton
POTS = Potsdam
SAOP = Sao Paulo
SGMR = Sagamore Hill
SYDN = Sydney
TORN = Torun
TYKW = Toyokawa
TRST = Trieste
VORO = Voroshilov (Ussurisk)

16
Jan 76

IMP 7 AND 8 SOLAR WIND PLASMA

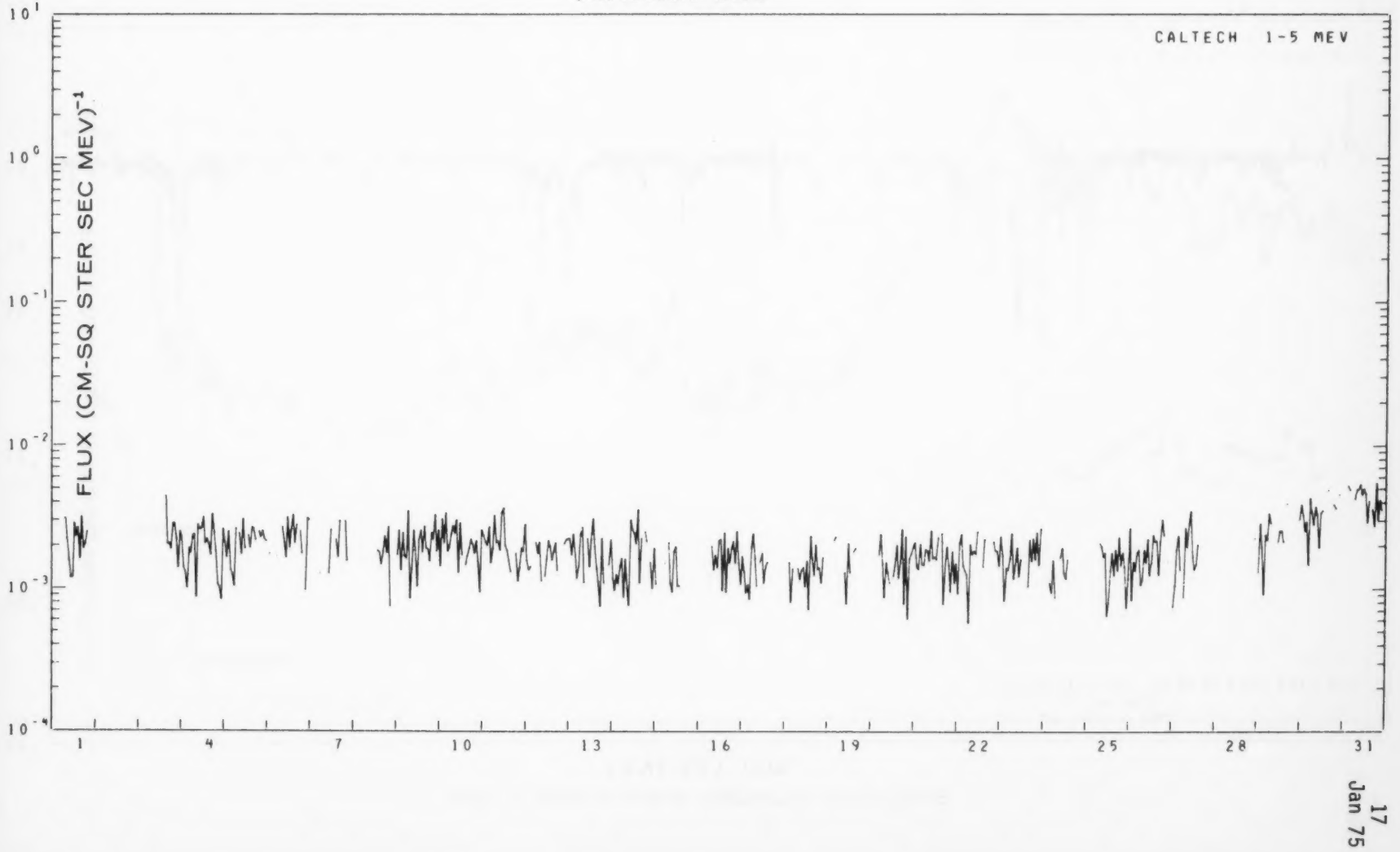
JANUARY 1976





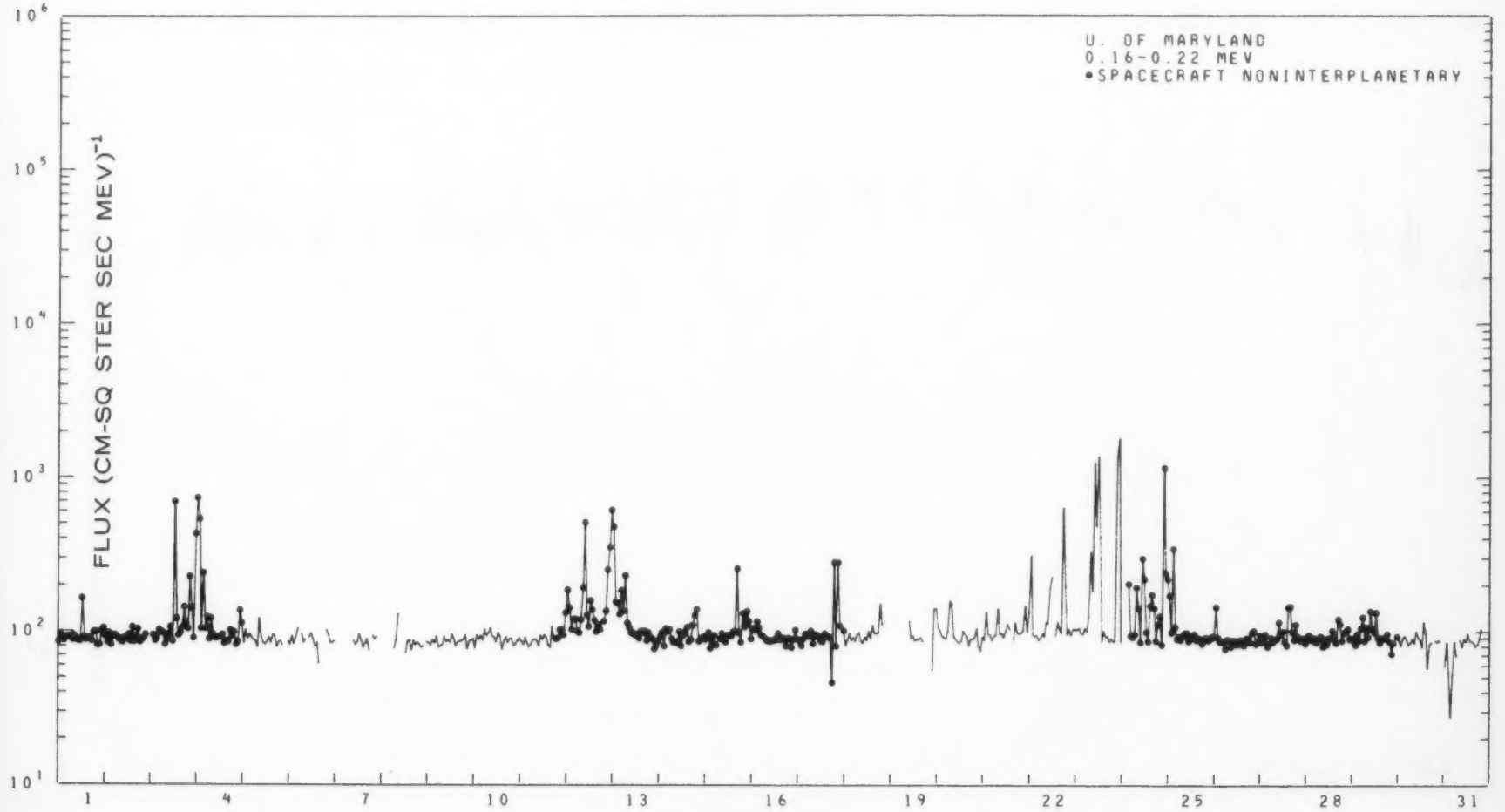
IMP 7 AND 8 ELECTRONS

JANUARY 1976



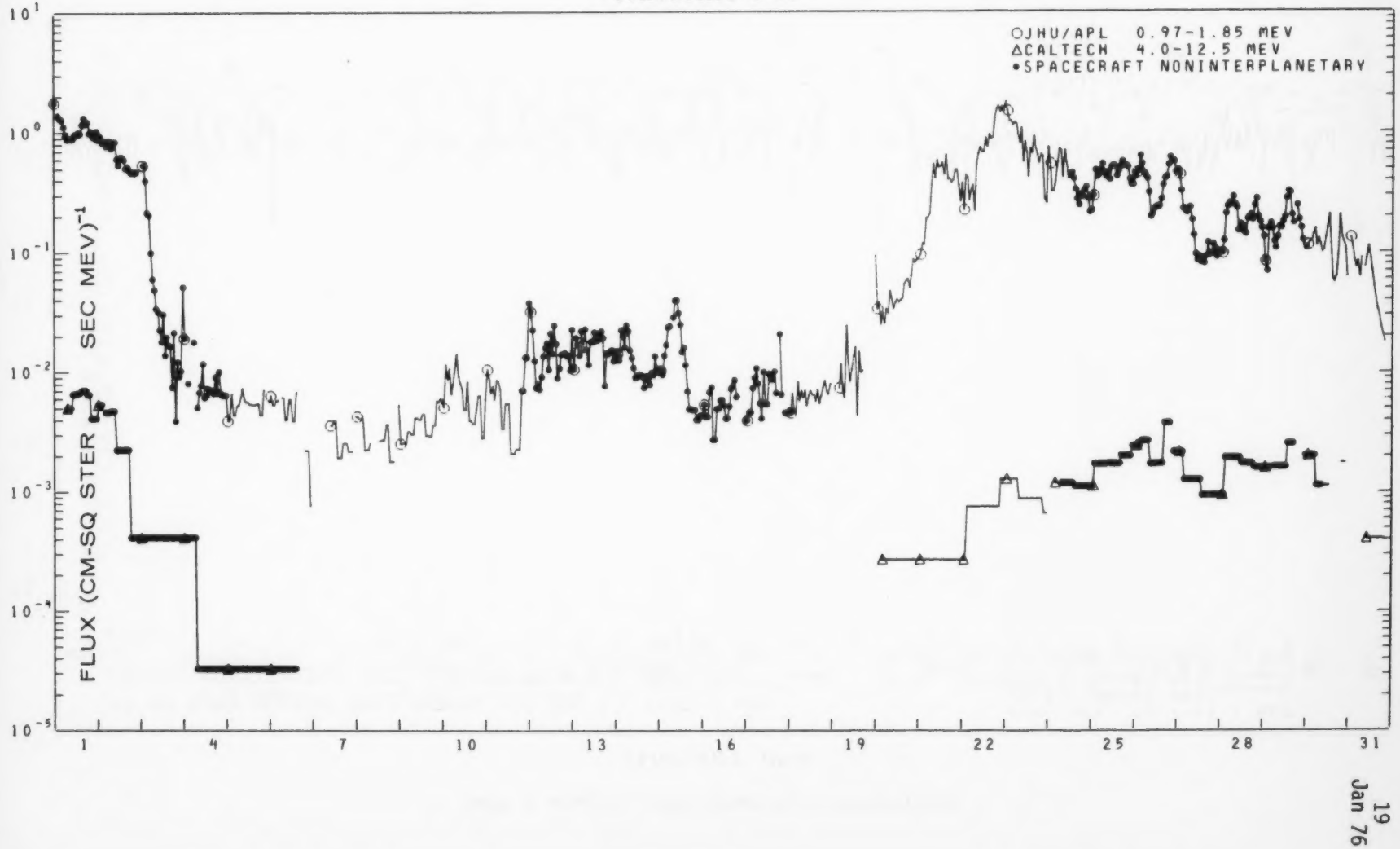
17 Jan 75

IMP 7 AND 8 LOW ENERGY PROTONS
JANUARY 1976



IMP 7 AND 8 INTERMEDIATE ENERGY PROTONS

JANUARY 1976

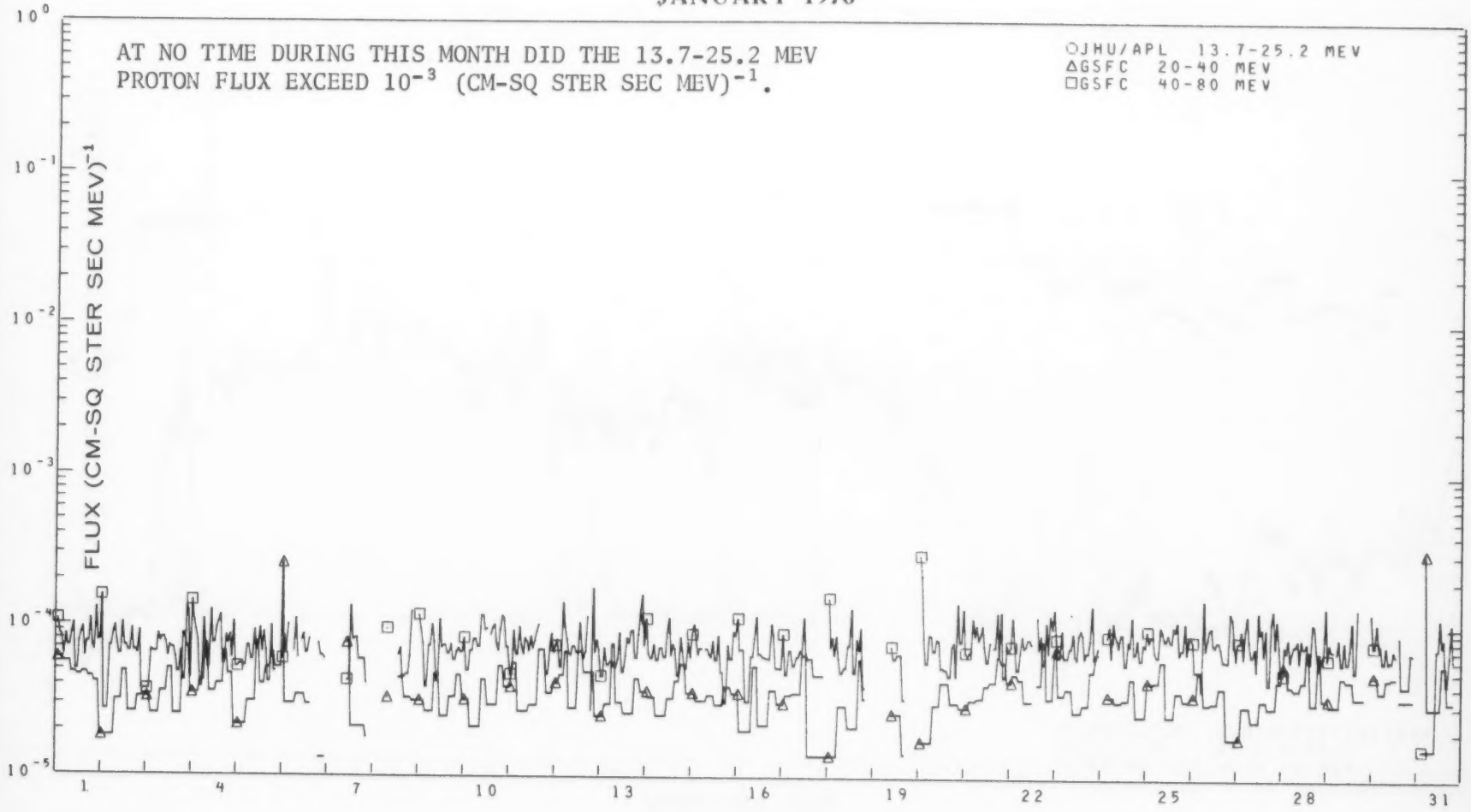


19 Jan 76

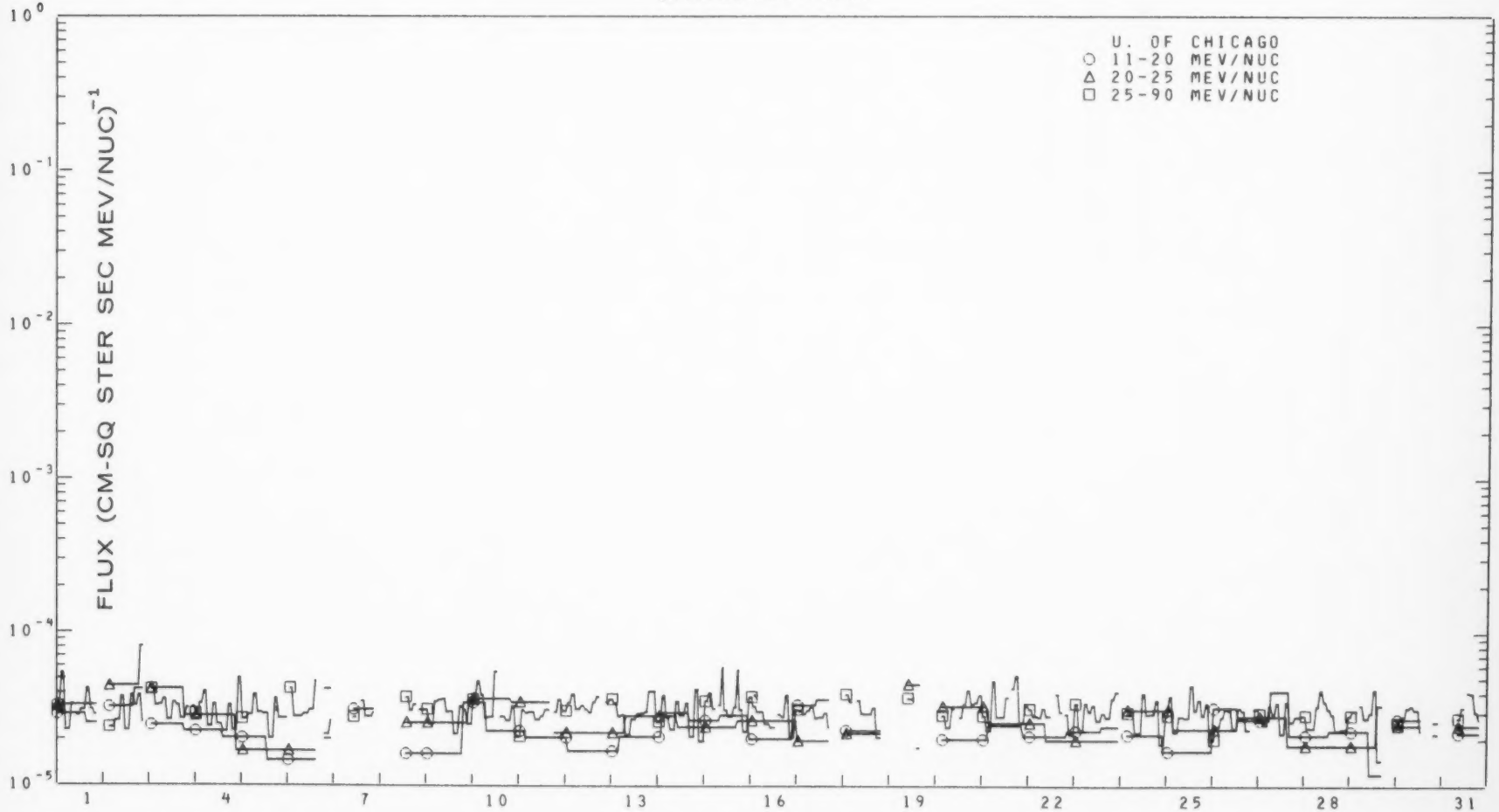
IMP 7 AND 8 HIGH ENERGY PROTONS

JANUARY 1976

20 Jan 76



IMP 7 AND 8 ALPHA PARTICLES
JANUARY 1976



21 Jan 76

SGD 383 Part II (Comprehensive)

DECEMBER 1975 DATA

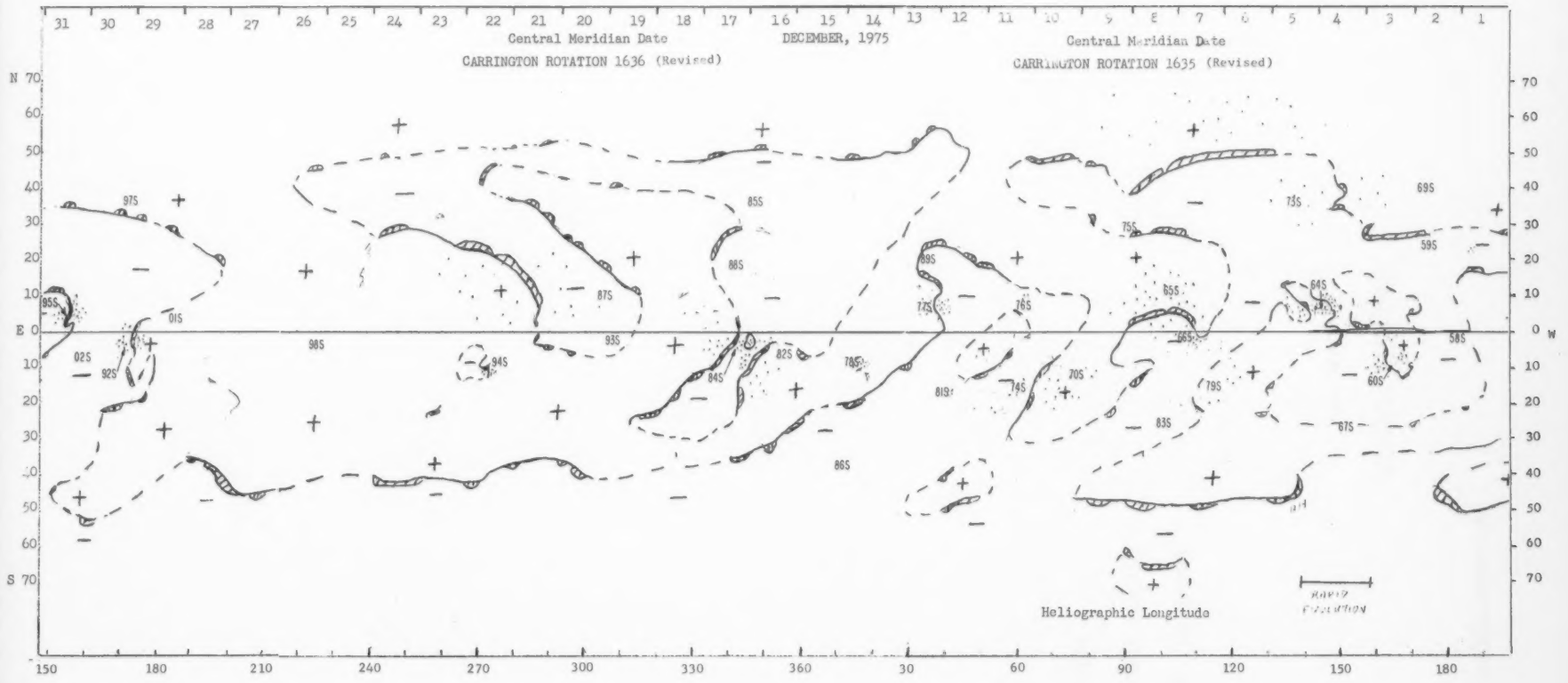
Contents

	Page
Hα Synoptic Chart (revised)	24
Abbreviated Calendar Record	25-32
Regional Flare Index	32

ABBREVIATED CALENDAR RECORD

Hα SYNOPTIC CHART

DECEMBER 1975



ABBREVIATED CALENDAR RECORD

Dec. 1, 1975

		00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES		
Bursts	cm	
	dm	
	m	
	Dkm	
SID		
X-Rays		
Ap 32D	Kp	5- 4+ 4+ 4+ 4o 5- 4+ 4o
	sc	
Aurora	USSR	ϕ = 57° 1300-1700 (HB1), 2000-0000 (R_1R2); ϕ = 54° 1700-1800 (R_1R2)
	W.E.	ϕ = 60° 1805 (glow) central Scotland; ϕ = 60° 2245-0300 (glow) eastern Atlantic
Cosmic Rays		
Green Corona		E. Limb 7 days earlier: NE- SE- W. Limb 7 days later: NW- no data SW- no data
Indices		Rz: 7 (Final) 10cm flux: 74 Flare: 0/19.4 Ca: 2.1 Ip: 0 Ia: 6
Solar Regions		
Sunspots		(19643) N36 αf

Dec. 2, 1975

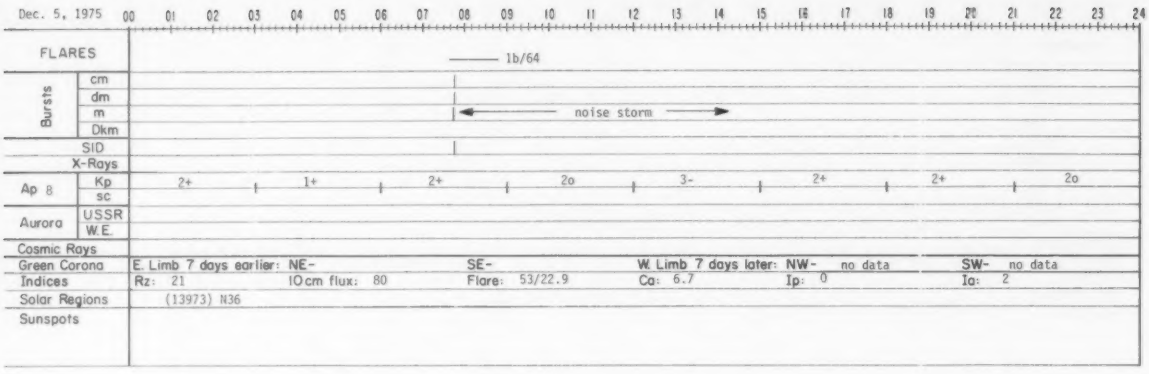
		00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES		
Bursts	cm	
	dm	
	m	
	Dkm	
SID		
X-Rays		
Ap 27D	Kp	4o 4o 4+ 5- 4- 3o 4o 4o
	sc	
Aurora	USSR	
	W.E.	ϕ = 60° 0150, 0350, 2100 and 2250 (glow) central Scotland; ϕ = 60° 0000-0300 (glow) eastern Atlantic
Cosmic Rays		
Green Corona		E. Limb 7 days earlier: NE- SE W. Limb 7 days later: NW- SW-
Indices		Rz: 23 10cm flux: 77 Flare: 0/18.5 Ca: 5.5 Ip: 0 Ia: 6
Solar Regions		(13958) S01 (13959) N24 (13969) N39
Sunspots		

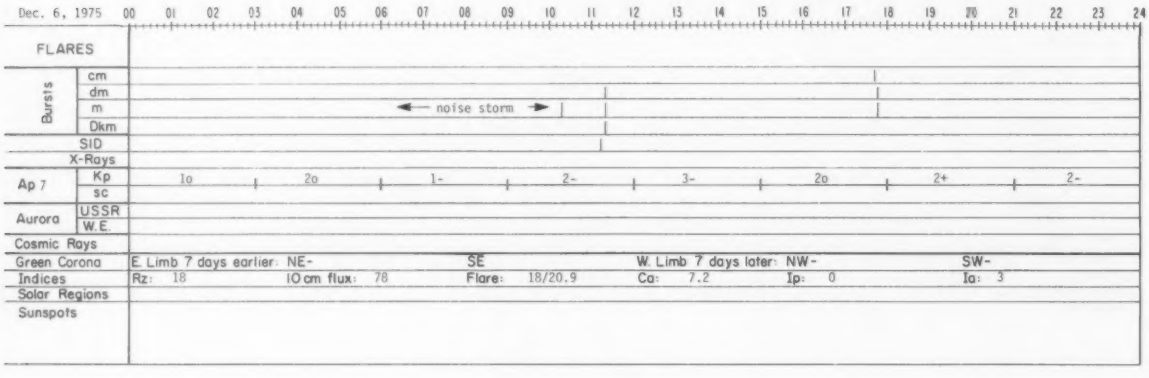
Dec. 3, 1975

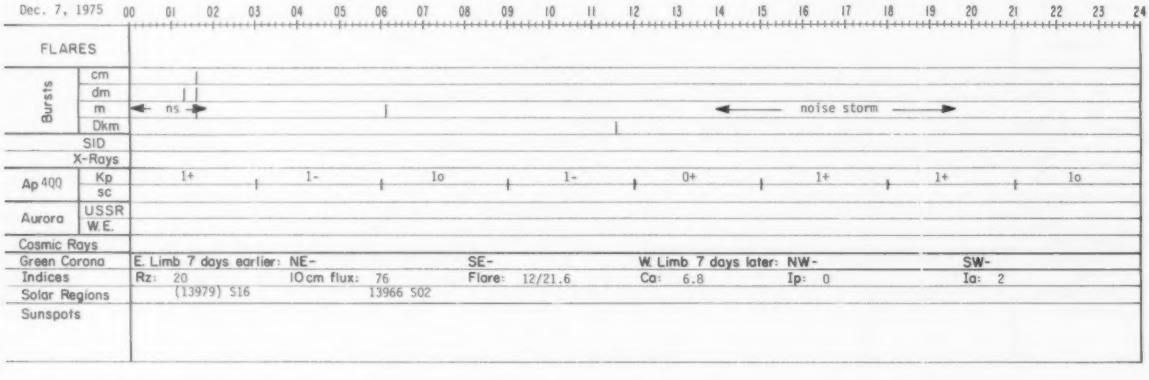
		00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES		
Bursts	cm	
	dm	
	m	← noise storm →
	Dkm	
SID		
X-Rays		
Ap 12	Kp	4- 2- 2+ 3o 3o 3- 2+ 3-
	sc	
Aurora	USSR	
	W.E.	
Cosmic Rays		
Green Corona		E. Limb 7 days earlier: NE- SE- W. Limb 7 days later: NW- SW-
Indices		Rz: 20 10cm flux: 76 Flare: 1/21.8 Ca: 6.2 Ip: 0 Ia: 5
Solar Regions		13960 S10 (2)
Sunspots		

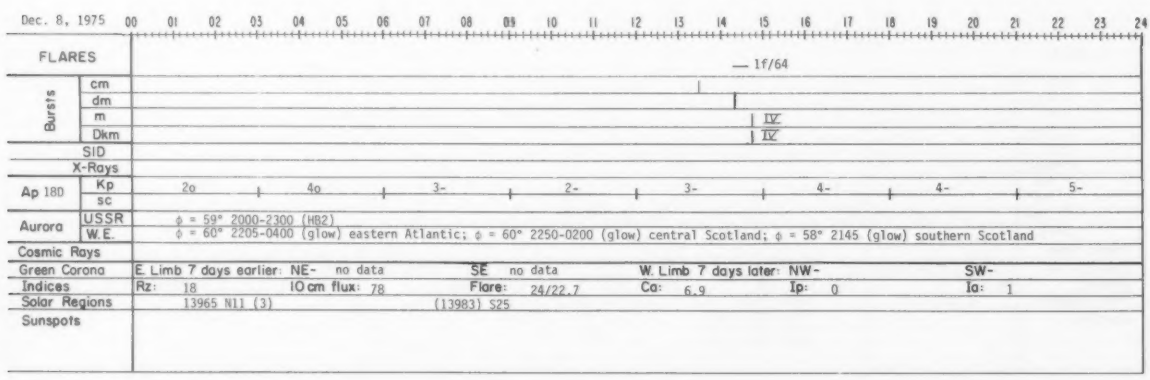
Dec. 4, 1975

		00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES		
Bursts	cm	
	dm	
	m	
	Dkm	
SID		
X-Rays		
Ap 13	Kp	3o 3- 2+ 3+ 3+ 3+ 2o 1+
	sc	
Aurora	USSR	ϕ = 57° 1300-1400 (HB1); ϕ = 59° 1500 (HB1), 1600-1700 (HB2)
	W.E.	
Cosmic Rays		
Green Corona		E. Limb 7 days earlier: NE- no data SE no data W. Limb 7 days later: NW- SW-
Indices		Rz: 23 10cm flux: 76 Flare: 6/22.2 Ca: 5.6 Ip: 0 Ia: 4
Solar Regions		(13967) S26 13964 N06
Sunspots		19645 N05 (βp)4 (19646) N00 (α) 1 19647 N04 (β) 2


Dec. 5, 1975
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1b/64
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 8
Kp
2+ 1+ 2+ 2o 3- 2+ 2+ 2o
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE-
SE-
W. Limb 7 days later: NW- no data
SW- no data
Indices
Rz: 21
10cm flux: 80
Flare: 53/22.9
Ca: 6.7
Ip: 0
Ia: 2
Solar Regions
(13973) N36
Sunspots


Dec. 6, 1975
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
noise storm
Dkm
SID
X-Rays
Ap 7
Kp
1o 2o 1- 2- 3- 2o 2+ 2-
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE-
SE
W. Limb 7 days later: NW-
SW-
Indices
Rz: 18
10cm flux: 78
Flare: 18/20.9
Ca: 7.2
Ip: 0
Ia: 3
Solar Regions
Sunspots


Dec. 7, 1975
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
ns
noise storm
Dkm
SID
X-Rays
Ap 400
Kp
1+ 1- 1o 1- 0+ 1+ 1+ 1o
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE-
SE-
W. Limb 7 days later: NW-
SW-
Indices
Rz: 20
10cm flux: 76
Flare: 12/21.6
Ca: 6.8
Ip: 0
Ia: 2
Solar Regions
(13979) S16
13966 S02
Sunspots


Dec. 8, 1975
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
1f/64
Bursts
cm
dm
m
IV
Dkm
IV
SID
X-Rays
Ap 180
Kp
2o 4o 3- 2- 3- 4- 4- 5-
sc
Aurora
USSR
φ = 59° 2000-2300 (HB2)
W.E.
φ = 60° 2205-0400 (glow) eastern Atlantic; φ = 60° 2250-0200 (glow) central Scotland; φ = 58° 2145 (glow) southern Scotland
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data
SE no data
W. Limb 7 days later: NW-
SW-
Indices
Rz: 18
10cm flux: 78
Flare: 24/22.7
Ca: 6.9
Ip: 0
Ia: 1
Solar Regions
13965 N11 (3)
(13983) S25
Sunspots

Dec. 9, 1975 | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24

FLARES		
Bursts	cm	
	dm	
	m	
	Dkm	
SID		
X-Rays		
Ap 16	Kp	5- | 3o | 1+ | 4- | 4o | 3o | 1- | 1+
	sc	
Aurora	USSR	ϕ = 59° 1100-1500 (HA2); ϕ = 57° 1900-2400 (R_1R2)
	W.E.	ϕ = 60° 0000-0400 (glow) eastern Atlantic, and 0000-0200 (glow) central Scotland
Cosmic Rays		
Green Corona		E. Limb 7 days earlier: NE- no data SE- no data W. Limb 7 days later: NW- SW-
Indices		Rz: 8 10 cm flux: 76 Flare: 1/23.5 Ca: no data Ip: 0 Ia: 2
Solar Regions		(13975) N29
Sunspots		

Dec. 10, 1975 | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24

FLARES		
Bursts	cm	
	dm	
	m	
	Dkm	
SID		
X-Rays		
Ap 8	Kp	0+ | 0+ | 1- | 3- | 4- | 3o | 0+ | 1+
	sc	
Aurora	USSR	ϕ = 57° 1300-1400 (HA1); ϕ = 58° 1500-1600 (HA2)
	W.E.	
Cosmic Rays		
Green Corona		E. Limb 7 days earlier: NE- SE W. Limb 7 days later: NW- no data SW- no data
Indices		Rz: 0 10 cm flux: 76 Flare: 1/22.4 Ca: 4.9 Ip: 0 Ia: 3
Solar Regions		13970 S12
Sunspots		

Dec. 11, 1975 | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24

FLARES		
Bursts	cm	
	dm	
	m	
	Dkm	
SID		
X-Rays		
Ap 50	Kp	1- | 1+ | 2+ | 2- | 1- | 1+ | 2+ | 1-
	sc	
Aurora	USSR	
	W.E.	
Cosmic Rays		
Green Corona		E. Limb 7 days earlier: NE- no data 10°, 90° SE- no data 95° W. Limb 7 days later: NW- SW-
Indices		Rz: 0 10 cm flux: 77 Flare: 1/21.5 Ca: no data Ip: 0 Ia: 2
Solar Regions		13976 N07 (13974) S16 (5)
Sunspots		

Dec. 12, 1975 | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24

FLARES		
Bursts	cm	
	dm	
	m	
	Dkm	
SID		
X-Rays		
Ap 300	Kp	1+ | 1- | 1- | 1- | 0+ | 0+ | 0+ | 1-
	sc	
Aurora	USSR	
	W.E.	
Cosmic Rays		
Green Corona		E. Limb 7 days earlier: NE- no data 35° SE W. Limb 7 days later: NW- SW-
Indices		Rz: 0 10 cm flux: 76 Flare: 0/18.9 Ca: 3.2 Ip: 0 Ia: 4
Solar Regions		(13981) S17
Sunspots		

Dec. 13, 1975 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

FLARES

Bursts: cm, dm, m, Dkm

SID

X-Rays

Ap 300 — Kp: 0o | 0o | 0+ | 1- | 0+ | 2- | 1o | 1o

sc

Aurora: USSR, W.E.

Cosmic Rays

Green Corona — E. Limb 7 days earlier: NE- SE- W. Limb 7 days later: NW- SW-

Indices — Rz: 0 10cm flux: 75 Flare: 0/17.8 Ca: 2.6 Ip: 0 Ia: 2

Solar Regions — 13977 N07 (2) (13989) N20

Sunspots

Dec. 14, 1975 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

FLARES

Bursts: cm, dm, m, Dkm

SID

X-Rays

Ap 60 — Kp: 1o | 0+ | 1o | 1o | 2o | 2o | 2o | 3-

sc

Aurora: USSR, W.E.

Cosmic Rays

Green Corona — E. Limb 7 days earlier: NE- no data SE no data W. Limb 7 days later: NW- SW-

Indices — Rz: 7 10cm flux: 74 Flare: 4.6 Ca: 0/17.5 Ip: 0 Ia: 1

Solar Regions — (13978) S09

Sunspots

Dec. 15, 1975 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

FLARES

Bursts: cm, dm, m, Dkm

SID

X-Rays

Ap 9 — Kp: 3+ | 3- | 2+ | 1+ | 2- | 2- | 1+ | 2+

sc

Aurora: USSR, W.E.

Cosmic Rays

Green Corona — E. Limb 7 days earlier: NE- no data SE- no data W. Limb 7 days later: NW- SW-

Indices — Rz: 7 10cm flux: 74 Flare: 6/20.5 Ca: no data Ip: 0 Ia: 2

Solar Regions — (13986) S37

Sunspots

Dec. 16, 1975 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

FLARES

Bursts: cm, dm, m, Dkm

SID

X-Rays

Ap 14 — Kp: 3+ | 4- | 3- | 3- | 2o | 3- | 3o | 3o

sc

Aurora: USSR, W.E.

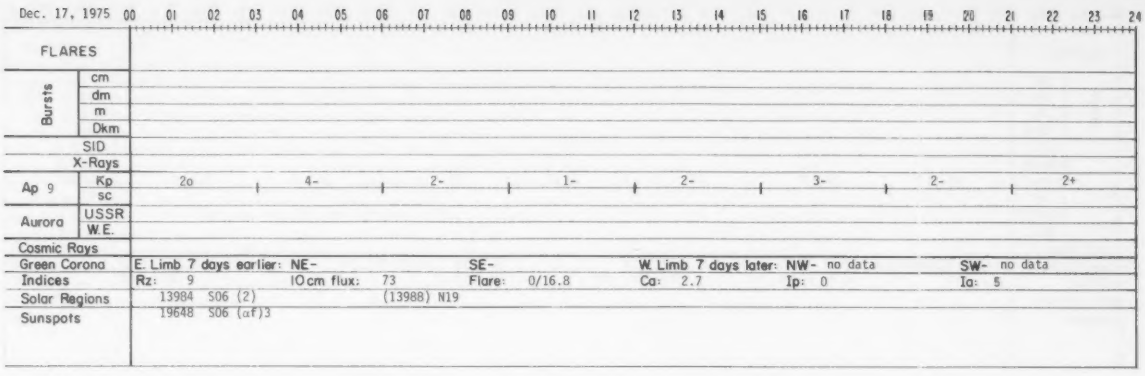
Cosmic Rays

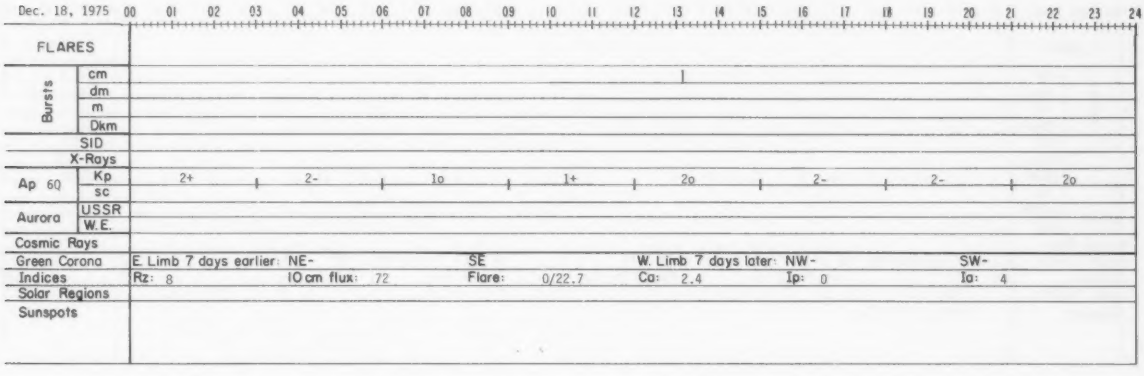
Green Corona — E. Limb 7 days earlier: NE- SE W. Limb 7 days later: NW- SW-

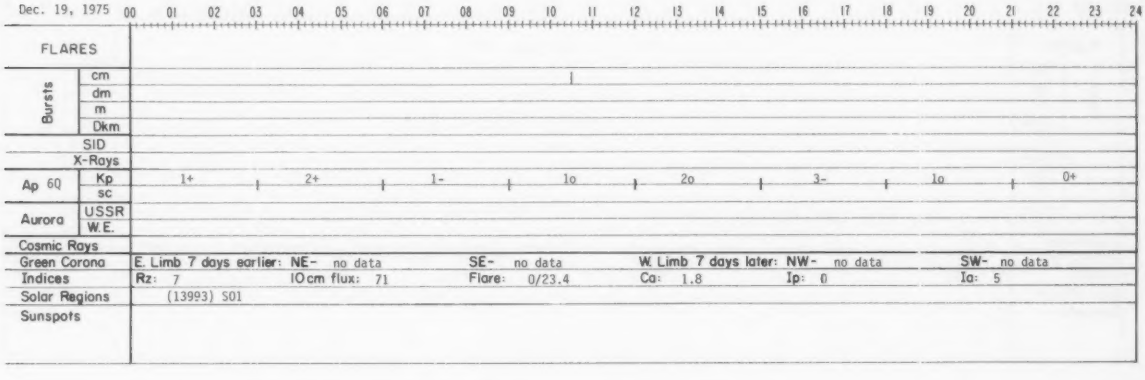
Indices — Rz: 7 10cm flux: 73 Flare: 0/22.2 Ca: 3.3 Ip: 0 Ia: 4

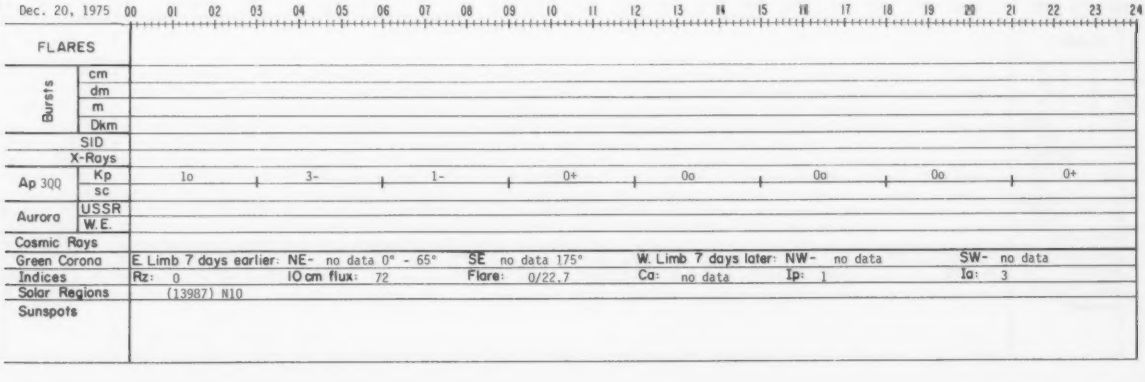
Solar Regions — 13982 S07 (2) (13985) N36

Sunspots


Dec. 17, 1975
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
Dkm
SID
X-Rays
Ap 9
Kp
2o 4- 2- 1- 2- 3- 2- 2+
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE-
SE-
W. Limb 7 days later: NW- no data
SW- no data
Indices
Rz: 9
10cm flux: 73
Flare: 0/16.8
Ca: 2.7
Ip: 0
Ia: 5
Solar Regions
13984 S06 (2)
(13988) N19
Sunspots
19648 S06 (αf)3


Dec. 18, 1975
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
Dkm
SID
X-Rays
Ap 6Q
Kp
2+ 2- 1o 1+ 2o 2- 2- 2o
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE-
SE
W. Limb 7 days later: NW-
SW-
Indices
Rz: 8
10cm flux: 72
Flare: 0/22.7
Ca: 2.4
Ip: 0
Ia: 4
Solar Regions
Sunspots


Dec. 19, 1975
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
Dkm
SID
X-Rays
Ap 6Q
Kp
1+ 2+ 1- 1o 2o 3- 1o 0+
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data
SE- no data
W. Limb 7 days later: NW- no data
SW- no data
Indices
Rz: 7
10cm flux: 71
Flare: 0/23.4
Ca: 1.8
Ip: 0
Ia: 5
Solar Regions
(13993) S01
Sunspots


Dec. 20, 1975
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
Dkm
SID
X-Rays
Ap 30Q
Kp
1o 3- 1- 0+ 0o 0o 0o 0+
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data 0° - 65°
SE no data 175°
W. Limb 7 days later: NW- no data
SW- no data
Indices
Rz: 0
10cm flux: 72
Flare: 0/22.7
Ca: no data
Ip: 1
Ia: 3
Solar Regions
(13987) N10
Sunspots

Dec. 21, 1975 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

FLARES

Bursts: cm, dm, m, Dkm

SID

X-Rays

Ap 9 — Kp: 1o 1- 1- 2+ 3+ 3o 3- 2o — sc

Aurora: USSR, W.E.

Cosmic Rays

Green Corona — E. Limb 7 days earlier: NE- no data 20° SE- — W. Limb 7 days later: NW- SW-

Indices — Rz: 0 10cm flux: 71 Flare: 0/22.8 Ca: 0.6 Ip: 0 Ia: 2

Solar Regions

Sunspots

Dec. 22, 1975 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

FLARES

Bursts: cm, dm, m, Dkm

SID

X-Rays

Ap 10 — Kp: 4- 2+ 2+ 2o 2- 2+ 3- 2+ — sc

Aurora: USSR, W.E.

Cosmic Rays

Green Corona — E. Limb 7 days earlier: NE- SE — W. Limb 7 days later: NW- SW-

Indices — Rz: 0 10cm flux: 71 Flare: 0/20.0 Ca: no data Ip: 0 Ia: 2

Solar Regions (13994) S10

Sunspots (19649) S07 βf}2

Dec. 23, 1975 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

FLARES — 1f/92

Bursts: cm, dm, m, Dkm

SID

X-Rays

Ap 7 — Kp: 2- 3o 2o 1+ 2- 1- 2o 2+ — sc

Aurora: USSR, W.E. ϕ = 60° 2250 (glow) central Scotland

Cosmic Rays

Green Corona — E. Limb 7 days earlier: NE- SE- — W. Limb 7 days later: NW- SW-

Indices — Rz: 0 10cm flux: 72 Flare: 3/23.1 Ca: 0.0 Ip: 0 Ia: 3

Solar Regions

Sunspots

Dec. 24, 1975 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

FLARES

Bursts: cm, dm, m, Dkm

SID

X-Rays

Ap 200 — Kp: 0o 1- 0o 0o 0o 0+ 2- 2o — sc

Aurora: USSR, W.E.

Cosmic Rays

Green Corona — E. Limb 7 days earlier: NE- no data SE no data — W. Limb 7 days later: NW- SW-

Indices — Rz: 18 10cm flux: 74 Flare: 7/23.6 Ca: 1.0 Ip: 0 Ia: 3

Solar Regions

Sunspots

Dec. 25, 1975 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

FLARES

Bursts: cm | dm | m | Dkm

SID

X-Rays

Ap 18 — Kp: 3o | 4- | 4- | 3o | 4- | 3o | 2o | 4o

sc

Aurora — USSR: ϕ = 59° 1100-1200 (R_{1-2}R2) and 1300-1400 (HB1)

W.E.

Cosmic Rays

Green Corona — E. Limb 7 days earlier: NE- SE- W. Limb 7 days later: NW- SW-

Indices — Rz: 14 10cm flux: 73 Flare: 0/22.8 Ca: no data Ip: 0 Ia: 4

Solar Regions

Sunspots

Dec. 26, 1975 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

FLARES

Bursts: cm | dm | m | Dkm

SID

X-Rays

Ap 34D — Kp: 4+ | 4- | 4+ | 4o | 5- | 5o | 5o | 4o

sc

Aurora — USSR: ϕ = 57° 0900-2100 (HA1); ϕ = 60° 2000-2200 (R_2A3), 2300-0100 (SB2)

W.E.: ϕ = 60° 1950-2400 (glow) central Scotland

Cosmic Rays

Green Corona — E. Limb 7 days earlier: NE- SE W. Limb 7 days later: NW- no data 290°-315° SW-

Indices — Rz: 8 10cm flux: 74 Flare: 0/22.7 Ca: no data Ip: 0 Ia: 5

Solar Regions: (13998) S03

Sunspots

Dec. 27, 1975 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

FLARES

Bursts: cm | dm | m | Dkm

SID

X-Rays

Ap 31D — Kp: 3+ | 4+ | 5o | 3o | 3- | 5+ | 5o | 4-

sc

Aurora — USSR: ϕ = 59° 1400-1800 (HB_{1-2}), 1700-2100 (HP2), 2100-2200 (R_2A1); ϕ = 60° 0000-0100 (SB2), 2000 (SA3), 2300 (R_1B3)

W.E.

Cosmic Rays

Green Corona — E. Limb 7 days earlier: NE- SE- W. Limb 7 days later: NW- SW-

Indices — Rz: 0 10cm flux: 75 Flare: 0/21.3 Ca: 2.7 Ip: 0 Ia: 5

Solar Regions

Sunspots

Dec. 28, 1975 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

FLARES

Bursts: cm | dm | m | Dkm

SID

X-Rays

Ap 15 — Kp: 4+ | 3+ | 3o | 2o | 1o | 3- | 2o | 4-

sc

Aurora — USSR: ϕ = 60° 0000-0100 (HB1); ϕ = 57° 1300-1400, 1800-2000 (HA1) and 1600-1700 (HA3)

W.E.

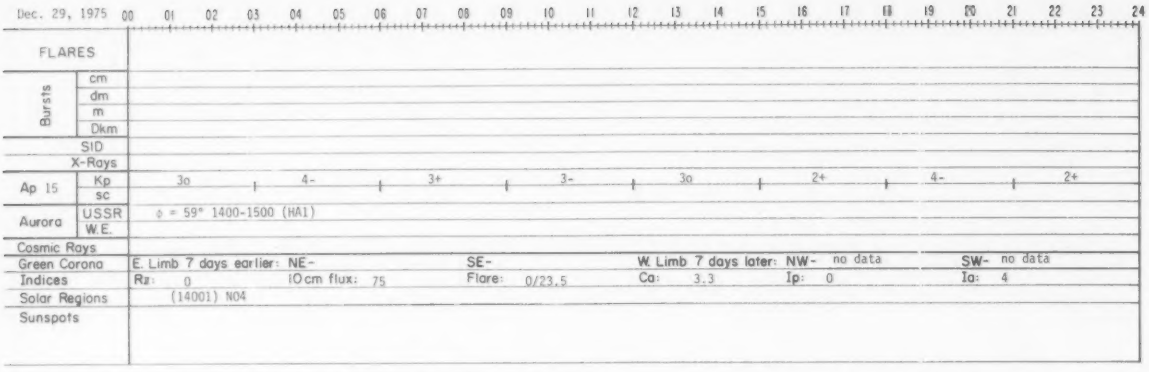
Cosmic Rays

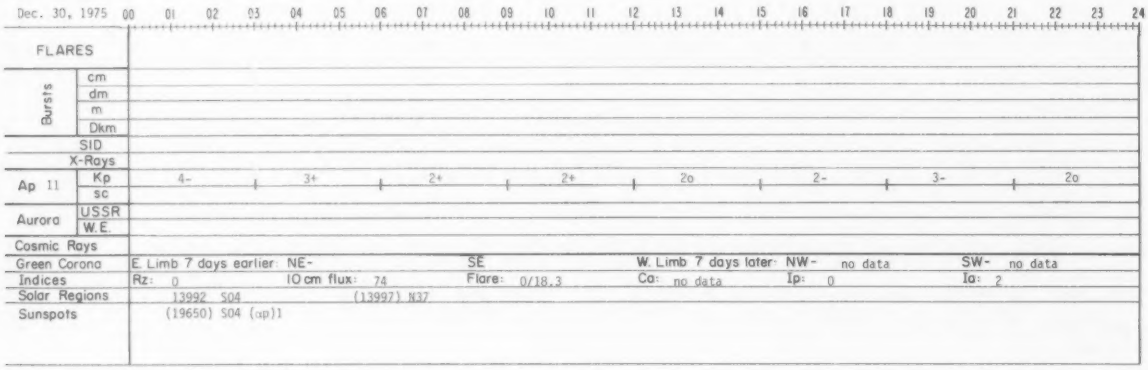
Green Corona — E. Limb 7 days earlier: NE- SE W. Limb 7 days later: NW- no data SW- no data

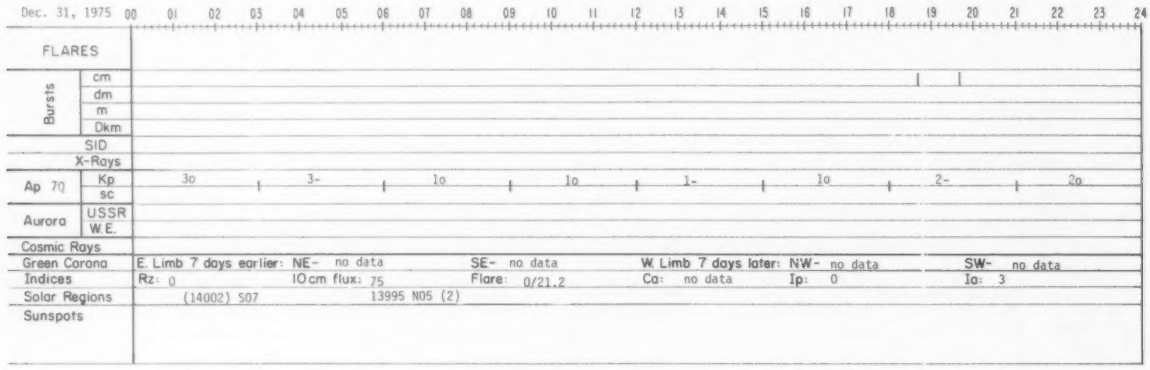
Indices — Rz: 0 10cm flux: 74 Flare: 0/22.7 Ca: no data Ip: 0 Ia: 0

Solar Regions

Sunspots






Dec. 31, 1975
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
FLARES
Bursts
cm
dm
m
Dkm
SID
X-Rays
Ap 70
Kp
3o 3- 1o 1o 1- 1o 2- 2o
sc
Aurora
USSR
W.E.
Cosmic Rays
Green Corona
E. Limb 7 days earlier: NE- no data SE- no data W. Limb 7 days later: NW- no data SW- no data
Indices
Rz: 0 10 cm flux: 75 Flare: 0/21.2 Ca: no data Ip: 0 Ia: 3
Solar Regions
(14002) S07 13995 N05 (2)
Sunspots

REGIONAL FLARE INDEX

INCLUDES ALL FLARES

MC MATH PLAGE NO.	LAT	CMP DATE	DATE FIRST FLARE	DATE LAST FLARE	FLARE-INDEX SUM	FLARE-INDEX MEAN	TOTAL NO. OF FLARES
13964	N 6	75/12/04.8	75/12/03	75/12/11	116.25	12.92	20
13984	S 7	75/12/17.2	75/12/15	75/12/15	5.70	5.70	1
13994	S11	75/12/22.5	75/12/24	75/12/24	6.76	6.76	2
13992	S 4	75/12/30.1	75/12/23	76/01/05	6.43	.46	4

Note:

Because of differences in method of calculation, the dates of Central Meridian Passage for the McMath Plage Regions vary somewhat from those given elsewhere. Any region not listed here produced no flares during its disk passage.

MISCELLANEOUS DATA

Contents

	Page
Solar Radio Waves	
Spectral -- Culgoora - April 1976	34-36
Radioheliograph Measurements - April 1976	37
Cosmic Rays (Addenda)	
Thule - April 1976	38
Energetic Solar Particles and Plasma	
IMP 8 Solar Wind Plasma - December 1975	39
Reduced Magnetograms - November 1975	40-41

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

APRIL 1976

APR 1976	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
01			CULG				0000	0736	1				N,RS,DP
	0000	0736	CULG	0000	0736	1	0000	0736	1				IS,DC
			CULG				0000	0736	1	0000	0736	1	IIIS
			CULG	0000	0736	1							IIIN
			CULG				0105		2				IIIB,U
			CULG	0536		1	0536		2				IIIB
			CULG	0607	0610	1	0607	0613	2				IIIGG,U
			CULG				0629	0630.5	2				IIIG
			CULG				0727	0728	2				IIIG,U
	2035	2400	CULG				2035	2400	1	2035	2400	1	IIIS
			CULG				2035	2400	1				N,RS,DP
			CULG	2035	2400	1	2035	2400	1				IS
			CULG	2035	2400	1							IIIN
			CULG	2157	2159	1	2157	2200	2	2157	2200	2	IIIG
02			CULG	0000	0736	1							IIIN
			CULG				0000	0341	1				N,RS,DP
			CULG				0000	0214	1	0000	0214	1	IIIS
	0000	0736	CULG	0000	0736	1	0000	0736	1				IS
			CULG				0214	0241	2	0214	0241	2	IIIGG
	2035	2400	CULG				2035	2400	1	2035	2400	1	IIIS
			CULG	2035	2400		2035	2400					IS,W
			CULG				2102	2102.5	2				IIIG,U
			CULG				2306	2307	2				IIIG,U
03	0000	0735	CULG	0000	0735		0000	0735					IS,W
			CULG				0000	0735		0000	0735		IIIN,W
	2035	2400	CULG				2035	2400	1				IIIN
			CULG	2035	2400		2035	2400					IN,W
			CULG				2251		1				IIIB,U
			CULG				2255		1				IIIB,U
			CULG	2350	2353	1	2350	2354	2				IIIG,U
04			CULG				0000	0735	1				IIIN
	0000	0735	CULG	0000	0735	1	0000	0735	1				IN
			CULG	0316	0316.5	1	0316	0317	2				IIIG,U
	2035	2400	CULG				2035	2400	1				IIIN
			CULG	2035	2400	1	2035	2400	1				IS
05	0000	0734	CULG	0000	0734	1	0000	0734	1				IS
			CULG				0000	0734	1				IIIN
			CULG				0418	0421	2				IIIG,U
			CULG				0422	0423	2				IIIG,U
			CULG	0459.5	0500	1	0458	0500.5	2				IIIG,U
	2035	2400	CULG	2148	2155	1	2150	2240	1			IV	
			CULG				2149.5	2222	2			II	
			CULG				2218	2328	1				IIIN
06	0000	0734	CULG				0249	0734	1				IIIN
	2034	2400	CULG				2034	2215	1				ISW
			CULG				2112	2400	1				IIIN
			CULG				2203	2204	2	2203	2204	2	IIIG,V
07	0000	0734	CULG				0141						IIIB,W
			CULG				0603	0604	1				IIIB
	2034	2400	CULG				2034	2155	1				IS,DC
			CULG				2034	2400	1				IIIN
			CULG				2155	2400					IS,W
09	0000	0734	CULG				0000	0734					IS,W
	0000	0733	CULG				0000	0555	1				IIIN
			CULG				0114	0640					IIIN,W
			CULG				0254		1				IIIB
			CULG				0455	0733	1				IIIS
			CULG				0500	0555	1				IS
			CULG				0555	0733	2				IS,CONT
	2034	2400	CULG				2104	2400					IIIN,W
	2034	2400	CULG				2124	2157					IIIN,W
10	0000	0724	CULG				0209		1				IIIB

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

APRIL 1976

APR 1976	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
10			CULG				0328						IIIB,W
			CULG				0607.5		1				IIIB,U
			CULG				0648		1				IIIB,U
	2034	2400	CULG										
11	0000	0733	CULG				0502	0537					IIIN,W
	2033	2400	CULG				2304		1				IIIB
			CULG				2311		1				IIIB
12	0000	0732	CULG				0721	0722					IIIG,W
	2033	2400	CULG										
13	0000	0732	CULG				0043.5	0139					IIIN,W
	2033	2400	CULG				2033	2320					IIIN,W
			CULG	2118									IIIB,W
14	0000	0732	CULG				0313.5						IIIB,W
	2032	2400	CULG				2115	2400					IIIN,W
			CULG	2150	2154	1							ICHAIN
15	0000	0732	CULG				0000	0155					IIIN,W
			CULG	0145	0550	1							IN
16	0238	0303	CULG										
	0324	0731	CULG				0358		1				IIIB
	2032	2400	CULG				2032	2200	2				IS
			CULG				2032	2400	1				IIIN
			CULG	2032	2200								IS,W
			CULG				2223	2224	1				IIIG,U
17	0000	0731	CULG	0316.5	0320		0316.5	0317					IIIG,W
			CULG	0410	0731								IS,W
	2031	2400	CULG										
18	0000	0731	CULG										
	2031	2400	CULG										
19	0000	0731	CULG										
	2031	2400	CULG	2042	2042.5	1	2042	2043	1				IIIG
			CULG				2239.5	2240					IIIG,W
20	0000	0731	CULG	0051	0731	1	0020	0731	1				IIIN
			CULG				0216	0218	1				IIIG,V,U
			CULG	0508.5	0509	1	0508.5	0509	1				IIIG
			CULG	0555	0556	1	0555	0556	1				IIIG
			CULG				0629.5		1				IIIG,U
			CULG	0652.5	0653.5	2	0652.5	0653.5	2				IIIG
	2031	2054	CULG										
	2117	2400	CULG										
21	0000	0730	CULG				0705	0706.5	1				IIIG
	2031	2400	CULG	2145	2218								IS,W
			CULG				2217		1				IIIB
			CULG				2323	2324	1				IIIG
22	0000	0730	CULG	0532	0537	1	0532	0537	1				IIIG
			CULG				0624		1				IIIB
			CULG	0635	0730								IW
	2030	2400	CULG				2030	2400					IIIN,W
			CULG	2253									IIIB,W
23	0000	0730	CULG	0000	0730								IW
			CULG				0225	0600					IIIN,W
			CULG				0226	0229	1				IIIG
			CULG	0303	0304	1	0303	0304	2				IIIG,V,U
			CULG				0553	0558	1				IIIG
	2030	2400	CULG	2030	2400	1							IS
			CULG				2030	2100					IIIN,W
			CULG	2051	2059	1	2051	2059	1				IIIG
24	0000	0730	CULG	0000	0600	1							I

SOLAR RADIO EMISSION
SPECTRAL OBSERVATIONS

APRIL 1976

APR 1976	TIMES OF OBSERVATION		STATION	EVENTS									SPECTRAL TYPE
				DECIMETRIC BAND			METRIC BAND			DEKAMETRIC BAND			
	START UT	END UT		START UT	END UT	INT	START UT	END UT	INT	START UT	END UT	INT	
24			CULG				0249	0249.5	1				IIIG
			CULG				0253		1				IIIB,U
			CULG	0412.5		1	0412.5		2				IIIB,U
			CULG	0413	0415	1	0413	0415	1				IIIG
			CULG				0448	0449	1				IIIG
			CULG	0527	0528	1	0527	0528	1				IIIG
	2030	2400	CULG	2030	2400	1							IN
			CULG				2030	2257	1				IIIN
25	0000	0730	CULG	0000	0730	1							IN
			CULG				0015	0345					IIIN,W
			CULG				0325	0420	1				IN
	2030	2155	CULG										
	2209	2400	CULG				2212.5						IIIB,W
			CULG	2244	2400	1							IS
26	0000	0730	CULG	0000	0730								IN,W
	2030	2400	CULG				2044						IIIB,W,U
27	0000	0730	CULG	0315	0316	1	0315	0316	1				IIIG
			CULG	0330.5									IIIB,W
			CULG				0648						IIIB,W
	2030	2400	CULG										
28	0000	0730	CULG										
	2030	2400	CULG										
29	0000	0729	CULG										
			CULG				2029	2220	1				IIIN
	2029	2400	CULG	2029	2140	1	2029	2220	1				IS
			CULG	2137	2138	1	2137	2138	1				IIIG
30	0000	0729	CULG	0053.5	0055	1							IIIG
			CULG	0055.5	0056	2	0055.5	0056	2				IIIG,U
			CULG	0104		1							IIIB,RS
			CULG	0104	0249	1							FASTDRIFT
			CULG				0136.5	0729					IIIN,W
			CULG	0138.5	0139.5	1	0138.5	0139.5	1				IIIG
			CULG				0445	0729	1				IS
	2032	2400	CULG							2100	2155	1	SWF
			CULG	2101	2121	2	2105	2130	2				IV
			CULG	2102.5	2103	1	2102.5	2103	1				IIIG
			CULG	2103	2105.5	2	2103	2110.5	2	2104	2110.5	2	IIIGG,V
			CULG				2106	2127.5	2	2110	2120	2	II, H
			CULG	2121	0020	1	2130	0020	1				IV
			CULG	2133	2145	1							RS

SELECTED SOLAR EVENTS

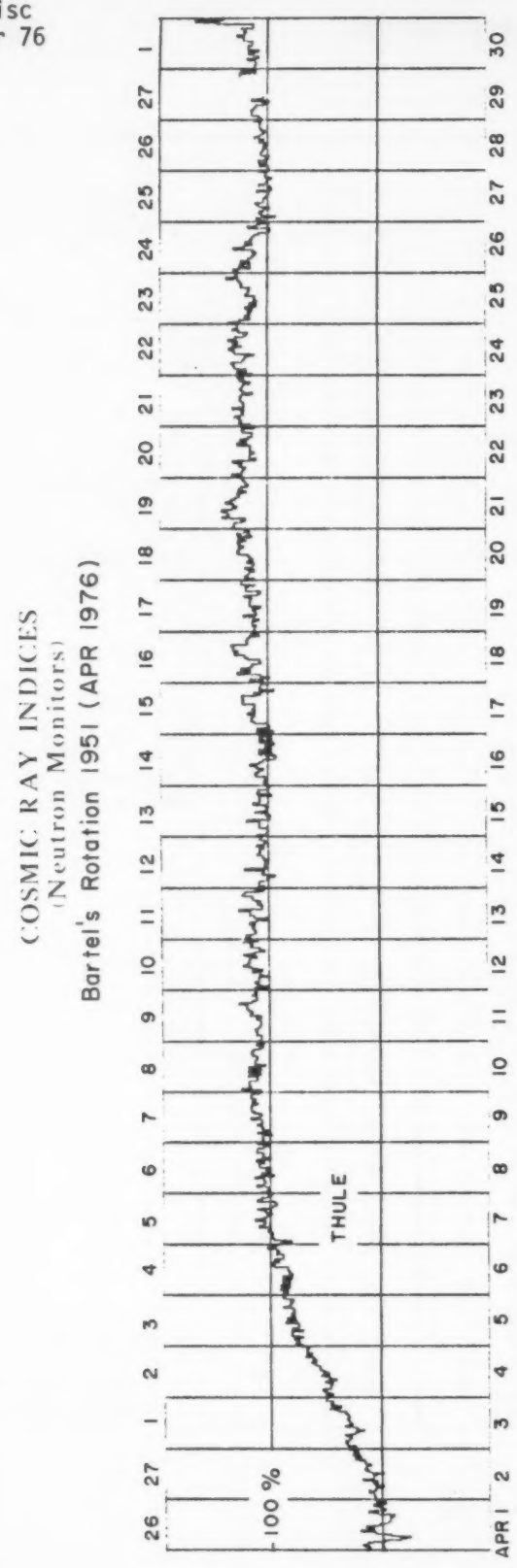
APRIL 1976

Culgoora

UT Date 1976. APRIL	HELIOGRAPH EVENT							Spectral Type	REMARKS
	Start (UT)	End (UT)	Freq. (MHz)	Positions: Central Dist. ($R_\odot$)	Positions: Position Angle (Deg.)	Polarization	Intensity (1-3)		
2	2345	2347	160	.6	240	0	1)	IIIG	*
			80	.9	270	0	1)		
			43.25	1.5	290	-	2)		
3	2351	2355	160	.7	250	0	3)	IIIG,U	Double source structure.
			80	.9	250	0	3)		
			43.25	1.3	250	-	3)		
3/4	2300	0520	160	.7	250	r	1)	I	Type I from this region April 1-5
			80	.9	250	r	1)		
5	0418	0421	160	.9	230	0	3)	IIIG,U	
			80	1.0	240	0	3)		
			43.25	1.3	250	-	3)		
5	2241	2307	80	1.2	45	0	1	IV	(Not detectable at (160 and 43.25 MHz (Type II at 21^h49^m ((Before start of (Observation).
6	0249	0251	80	1.3	50	0	2	IIIG	
20	0020	0021	160	0.7	330	0	2	IIIG	*
			80	0.7	330	0	1		
23	0303	0304	160	1.1	230	0	3	IIIG	
			80	1.2	240	0	3		
24	0412	0415	160	1.2	90	0	1)	IIIG,U	
			80	1.2	60	0	2)		
			43.25	1.2	40	-	1)		
	0448	0450	160	1.1	240	0	2)	IIIG	
			80	1.2	260	0	2)		
			43.25	1.3	280	-	1)		
25	0320	0440	160	.9	130	r	1)	I	
			80	.6	120	r	1-2)		
27	0330	0331	160	0	-	0	1		
30	2240	2400	160	.9	250	0	1)	IVs	(Type II at (21^h06^m ((Before start of (observations).
			80	1.3	260	0	1)		

Days without Heliograph observations: ..Nil..... ..

* Other Type III's observed at same positions during day

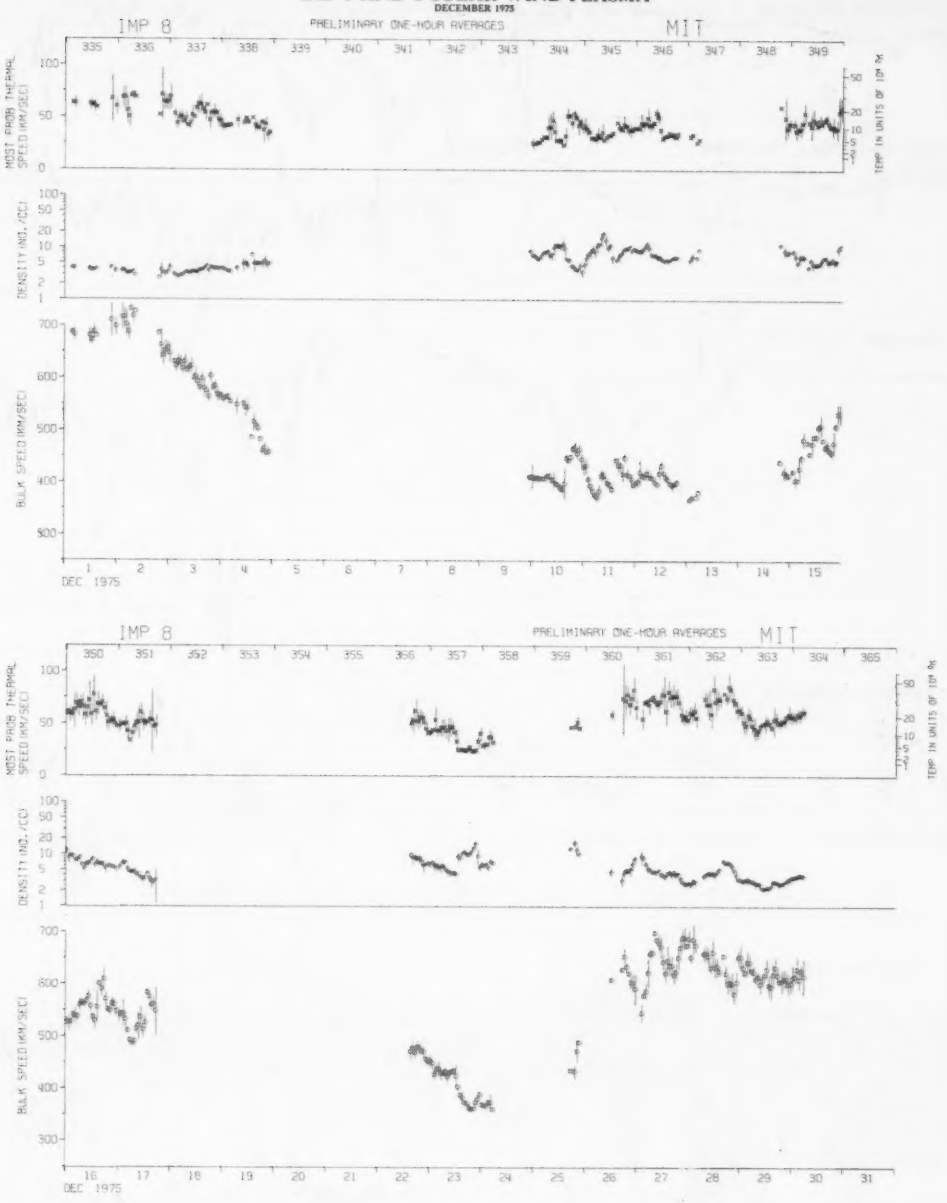


Thule

April 1976	Daily Average Counts Per Hour
1	4282.9
2	4305.8
3	4354.5
4	4405.2
5	4461.3
6	4484.3
7	4510.7
8	4522.7
9	4533.4
10	4539.0
11	4538.4
12	4537.7
13	4539.8
14	4520.9
15	4519.8
16	4515.7
17	4531.7
18	4547.3
19	4540.0
20	4551.5
21	4572.0
22	4552.1
23	4560.3
24	4567.0
25	4553.9
26	4542.7
27	4514.8
28	4519.4
29	4533.9
30	4554.3

IMP 7 AND 8 SOLAR WIND PLASMA

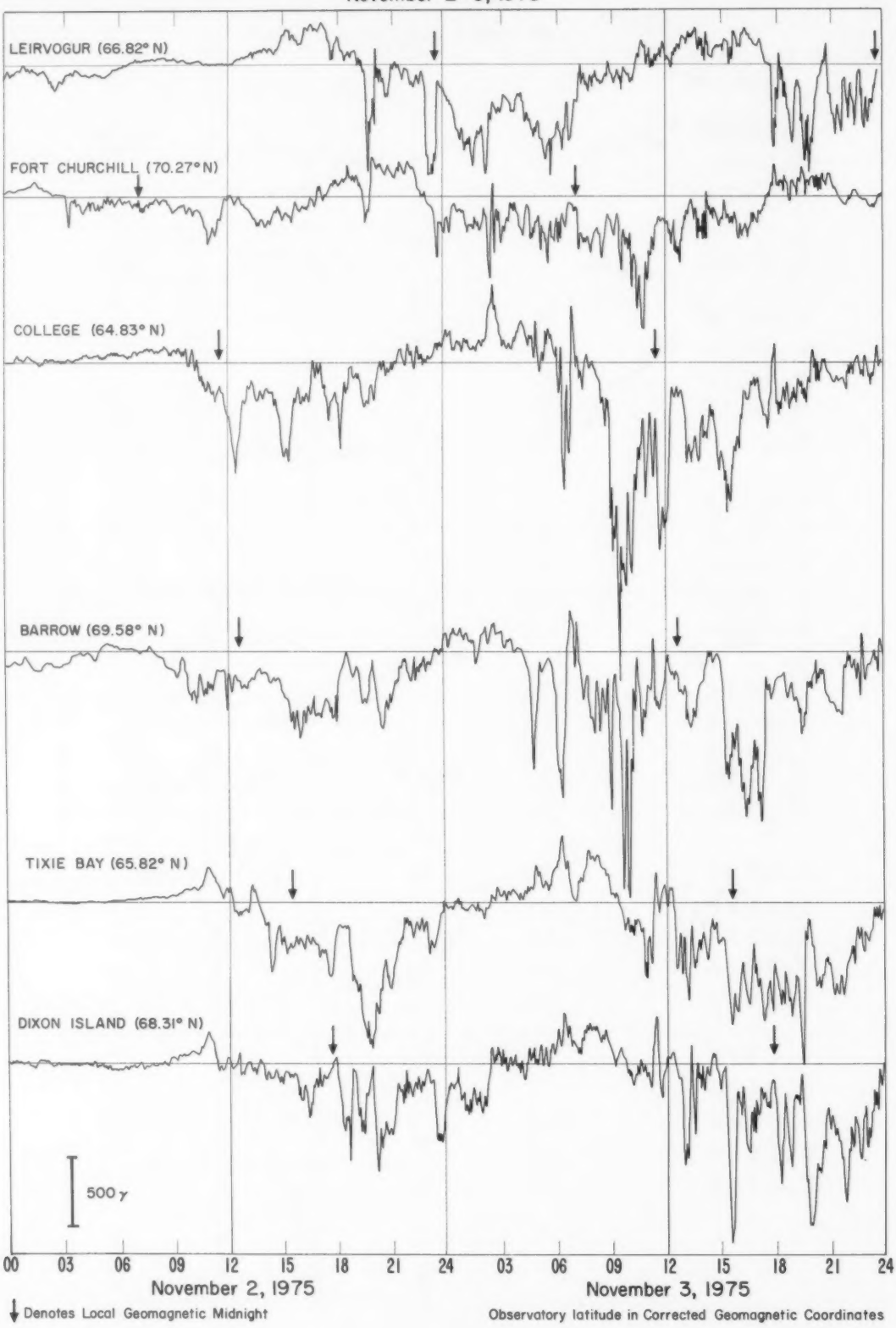
DECEMBER 1975



40
Misc
Nov 75

H-COMPONENT MAGNETOGRAMS OF GEOMAGNETIC STORMS

November 2-3, 1975

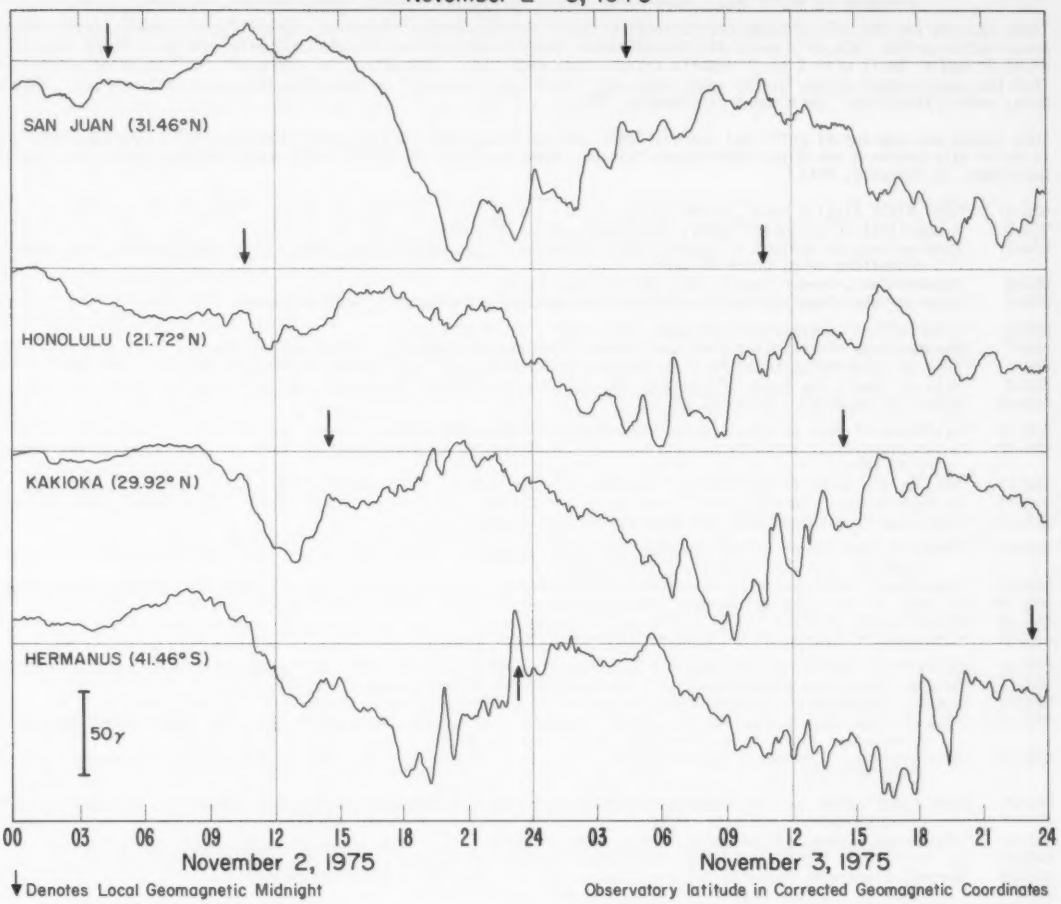

LEIRVOGUR (66.82° N)
FORT CHURCHILL (70.27° N)
COLLEGE (64.83° N)
BARROW (69.58° N)
TIXIE BAY (65.82° N)
DIXON ISLAND (68.31° N)
500 γ
00 03 06 09 12 15 18 21 24 03 06 09 12 15 18 21 24
November 2, 1975
November 3, 1975

↓ Denotes Local Geomagnetic Midnight

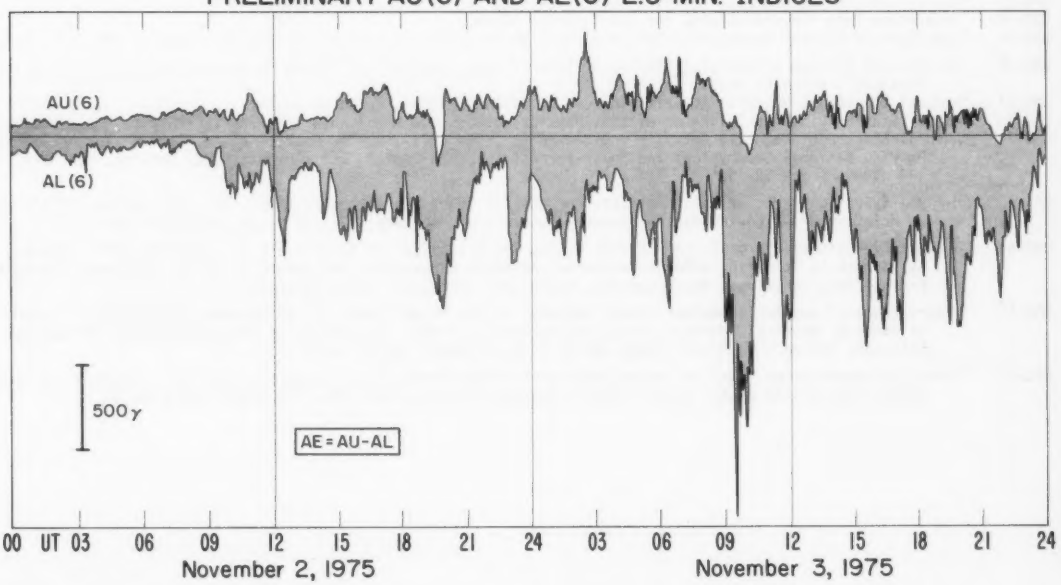
Observatory latitude in Corrected Geomagnetic Coordinates

H-COMPONENT MAGNETOGRAMS OF GEOMAGNETIC STORMS

November 2 – 3, 1975


SAN JUAN (31.46°N)
HONOLULU (21.72° N)
KAKIOKA (29.92° N)
HERMANUS (41.46° S)
50γ
00 03 06 09 12 15 18 21 24 03 06 09 12 15 18 21 24
November 2, 1975
November 3, 1975
Denotes Local Geomagnetic Midnight
Observatory latitude in Corrected Geomagnetic Coordinates

PRELIMINARY AU(6) AND AL(6) 2.5-MIN. INDICES



UAG Series of Reports

Prepared by World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, Colorado, U.S.A.

These reports are for sale through the National Climatic Center, Federal Building, Asheville, NC 28801, Attn: Publications. Subscription price: $25.20 a year; $12.00 additional for foreign mailing; single copy price varies. These reports are issued on an irregular basis with 6 to 12 reports being issued each year. Therefore, in some years the single copy rate will be less than the subscription price, and in some years the single copy rate will be more than the subscription price. Make check or money order payable to: Department of Commerce, NOAA.

Some issues are now out of print and are available only on microfiche as indicated. Requests for microfiche should be sent to World Data Center A for Solar-Terrestrial Physics, NOAA, Boulder, CO 80302, with check or money order made payable to Department of Commerce, NOAA.

UAG-1 "IQSY Night Airglow Data", price $1.75.
UAG-2 "A Reevaluation of Solar Flares, 1964-1966", price 30 cents.
UAG-3 "Observations of Jupiter's Sporadic Radio Emission in the Range 7.6-41 MHz, 6 July 1966 through 8 September 1968", microfiche only, price 45 cents.
UAG-4 "Abbreviated Calendar Record 1966-1967", price $1.25.
UAG-5 "Data on Solar Event of May 23, 1967 and its Geophysical Effects", price 65 cents.

UAG-6 "International Geophysical Calendars 1957-1969", price 30 cents.
UAG-7 "Observations of the Solar Electron Corona: February 1964-January 1968", price 15 cents.
UAG-8 "Data on Solar-Geophysical Activity October 24-November 6, 1968", price (includes Parts 1 & 2) $1.75.
UAG-9 "Data on Cosmic Ray Event of November 18, 1968 and Associated Phenomena", price 55 cents.
UAG-10 "Atlas of Ionograms", price $1.50.

UAG-11 "Catalogue of Data on Solar-Terrestrial Physics" (now obsolete).
UAG-12 "Solar-Geophysical Activity Associated with the Major Geomagnetic Storm of March 8, 1970", price (includes Parts 1-3) $3.00.
UAG-13 "Data on the Solar Proton Event of November 2, 1969 through the Geomagnetic Storm of November 8-10, 1969, price 50 cents.
UAG-14 "An Experimental, Comprehensive Flare Index and Its Derivation for 'Major' Flares, 1955-1969", price 30 cents.
UAG-15 "Catalogue of Data on Solar-Terrestrial Physics" (now obsolete).

UAG-16 "Temporal Development of the Geographical Distribution of Auroral Absorption for 30 Substorm Events in each of IQSY (1964-65) and IASY (1969)", price 70 cents.
UAG-17 "Ionospheric Drift Velocity Measurements at Jicamarca, Peru (July 1967-March 1970)", microfiche only, price 45 cents.
UAG-18 "A Study of Polar Cap and Auroral Zone Magnetic Variations", price 20 cents.
UAG-19 "Reevaluation of Solar Flares 1967", price 15 cents.
UAG-20 "Catalogue of Data on Solar-Terrestrial Physics" (now obsolete).

UAG-21 "Preliminary Compilation of Data for Retrospective World Interval July 26 - August 14, 1972", price 70 cents.
UAG-22 "Auroral Electrojet Magnetic Activity Indices (AE) for 1970", price 75 cents.
UAG-23 "U.R.S.I. Handbook of Ionogram Interpretation and Reduction", price $1.75.
UAG-24 "Data on Solar-Geophysical Activity Associated with the Major Ground Level Cosmic Ray Events of 24 January and 1 September 1971", price (includes Parts 1 and 2) $2.00.
UAG-25 "Observations of Jupiter's Sporadic Radio Emission in the Range 7.6-41 MHz, 9 September 1968 through 9 December 1971", price 35 cents.

UAG-26 "Data Compilation for the Magnetospherically Quiet Periods February 19-23 and November 29 - December 3, 1970", price 70 cents.
UAG-27 "High Speed Streams in the Solar Wind", price 15 cents.
UAG-28 "Collected Data Reports on August 1972 Solar-Terrestrial Events", price (includes Parts 1-3) $4.50.
UAG-29 "Auroral Electrojet Magnetic Activity Indices AE (11) for 1968", price 75 cents.
UAG-30 "Catalogue of Data on Solar-Terrestrial Physics", price $1.75.

UAG-31 "Auroral Electrojet Magnetic Activity Indices AE (11) for 1969", price 75 cents.
UAG-32 "Synoptic Radio Maps of the Sun at 3.3 mm for the Years 1967-1969", price 35 cents.
UAG-33 "Auroral Electrojet Magnetic Activity Indices AE (10) for 1967", price 75 cents.
UAG-34 "Absorption Data for the IGY/IGC and IQSY", price $2.00.
UAG-35 "Catalogue of Digital Geomagnetic Variation Data at World Data Center A for Solar-Terrestrial Physics", price 20 cents.

UAG-36 "An Atlas of Extreme Ultraviolet Flashes of Solar Flares Observed Via Sudden Frequency Deviations During the ATM-SKYLAB Missions", price 55 cents.
UAG-37 "Auroral Electrojet Magnetic Activity Indices AE (10) for 1966", price 75 cents.
UAG-38 "Master Station List for Solar-Terrestrial Physics Data at WDC-A for Solar-Terrestrial Physics", price $1.60.
UAG-39 "Auroral Electrojet Magnetic Activity Indices AE (11) for 1971", by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Environmental Data Service, February 1975, 144 pages, price $2.05.

UAG-40 "H-Alpha Synoptic Charts of Solar Activity For the Period of Skylab Observations, May, 1973-March, 1974", by Patrick S. McIntosh, NOAA Environmental Research Laboratory, February 1975, 32 pages, price 56 cents.

UAG-41 "H-Alpha Synoptic Charts of Solar Activity During the First Year of Solar Cycle 20, October, 1964 - August, 1965", by Patrick S. McIntosh, NOAA Environmental Research Laboratory, and Jerome T. Nolte, American Science and Engineering, Cambridge, Massachusetts, March 1975, 25 pages, price 48 cents.

UAG-42 "Observations of Jupiter's Sporadic Radio Emission in the Range 7.6-80 MHz 10 December 1971 through 21 March 1975", by James W. Warwick, George A. Dulk, and Anthony C. Riddle, Department of Astro-Geophysics, University of Colorado, Boulder, Colorado 80302, April 1975, 49 pages, price $1.15.

UAG-43 "Catalog of Observation Times of Ground-Based Skylab-Coordinated Solar Observing Programs", compiled by Helen E. Coffey, World Data Center A for Solar-Terrestrial Physics, May 1975, 159 pages, price $3.00.

UAG-44 "Synoptic Maps of Solar 9.1 cm Microwave Emission from June 1962 to August 1973", by Werner Graf and Ronald N. Bracewell, Radio Astronomy Institute, Stanford University, Stanford, California 94305, May 1975, 183 pages, price $2.55.

UAG-45 "Auroral Electrojet Magnetic Activity Indices AE (11) for 1972", by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Environmental Data Service, May 1975, 144 pages, price $2.10.

UAG-46 "Interplanetary Magnetic Field Data 1963-1974", by Joseph H. King, National Space Science Data Center, NASA Goddard Space Flight Center, Greenbelt, Maryland 20771, June 1975, 382 pages, price $2.95.

UAG-47 "Auroral Electrojet Magnetic Activity Indices AE (11) for 1973", by Joe Haskell Allen, Carl C. Abston and Leslie D. Morris, National Geophysical and Solar-Terrestrial Data Center, Environmental Data Service, June 1975, 144 pages, price $2.10.

UAG-48A "Synoptic Observations of the Solar Corona during Carrington Rotations 1580-1596 (11 October 1971 - 15 January 1973)", [Reissue with quality images] by R. A. Howard, M. J. Koomen, D. J. Michels, R. Tousey, C. R. Detwiler, D. E. Roberts, R. T. Seal and J. D. Whitney, E. O. Hulbert Center for Space Research, NRL, Washington, D. C. 20375 and R. T. and S. F. Hansen, C. J. Garcia and E. Yasukawa, High Altitude Observatory, NCAR, Boulder, Colorado 80303, February 1976, 200 pages, price $4.27.

UAG-49 "Catalog of Standard Geomagnetic Variation Data", prepared by Environmental Data Service, NOAA, Boulder, Colorado, August 1975, 125 pages, price $1.85.

UAG-50 "High-Latitude Supplement to the URSI Handbook on Ionogram Interpretation and Reduction", by W. R. Piggott, British Antarctic Survey, c/o SRC, Appleton Laboratory, Ditton Park, Slough, England, October 1975, 292 pages, price $4.00.

UAG-51 "Synoptic Maps of Solar Coronal Hole Boundaries Derived from He II 304Å Spectroheliograms from the Manned Skylab Missions", by J. D. Bohlin and D. M. Rubenstein, E. O. Hulbert Center for Space Research, Naval Research Laboratory, Washington, D. C. 20375 U.S.A., November 1975, 30 pages, price 54 cents.

UAG-52 "Experimental Comprehensive Solar Flare Indices for Certain Flares, 1970-1974", compiled by Helen W. Dodson and E. Ruth Hedeman, McMath-Hulbert Observatory, The University of Michigan, 895 Lake Angelus Road North, Pontiac, Michigan 48055 U.S.A., November 1975, 27 pages, price 60 cents.

UAG-53 "Description and Catalog of Ionospheric F-Region Data, Jicamarca Radar Observatory (November 1966 - April 1969)", by W. L. Clark and T. E. Van Zandt, Aeronomy Laboratory, NOAA, Boulder, Colorado 80302 and J. P. McClure, University of Texas at Dallas, Dallas, Texas 75230, April 1976, 10 pages, price 33 cents.

UAG-54 "Catalog of Ionosphere Vertical Soundings Data", prepared by Environmental Data Service, NOAA, Boulder, Colorado 80302, April 1976, 130 pages, price $2.10.

UAG-55 "Equivalent Ionospheric Current Representations by a New Method, Illustrated for 8-9 November 1969 Magnetic Disturbances", by Y. Kamide, Cooperative Institute for Research in Environmental Sciences, University of Colorado, Boulder, Colorado 80302 and Geophysical Institute, University of Alaska, Fairbanks, Alaska 99701, H. W. Kroehl, Data Studies Division, NOAA/EDS/NGSDC, Boulder, Colorado 80302, M. Kanamitsu, Advanced Study Program, National Center for Atmospheric Research, Boulder, Colorado 80303, J. H. Allen, Data Studies Division, NOAA/EDS/NGSDC, Boulder, Colorado 80302, and S.-I. Akasofu, Geophysical Institute, University of Alaska, Fairbanks, Alaska 99701, April 1976, 91 pages, price $1.60.

UAG-56 "Iso-intensity Contours of Ground Magnetic H Perturbations for the December 16-18, 1971 Geomagnetic Storm", by Y. Kamide, Cooperative Institute for Research in Environmental Sciences, University of Colorado, Boulder, Colorado 80302 and Geophysical Institute, University of Alaska, Fairbanks, Alaska 99701 (currently Guest worker at Data Studies Division, NOAA/EDS/NGSDC, Boulder, Colorado 80302), April 1976, 37 pages, price $1.39.

UAG-57 "Manual on Ionospheric Absorption Measurements", edited by K. Rawer, Institut für Physikalische Weltraumforschung, Freiburg, G.F.R., June 1976, 202 pages, price $4.27.

USCOMM-NOAA-ASHEVILLE,NC-7-30-76-950

AMERICAN REVOLUTION BICENTENNIAL
1776-1976